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ABSTRACT

This report presents estimates of the proportion of teachers who use a wide range of teaching practices, including those frequently recommended in curriculum and teaching standards and those that have traditionally been part of teachers' practice. The report analyzes data from the 1994-95 Teacher Follow-up Survey, which administered a series of items on instructional practices to a national sample of K-12 teachers in all subject areas. The report examines teachers' practices in four areas: roles that teachers and students play in learning activities; materials and technology used in the classroom; kinds of learning tasks that students complete in the classroom and at home; and how teachers assess and evaluate student learning. The report discusses whether teachers' choices of instructional strategies vary with characteristics of teachers and their students. The report concludes that U.S. teachers use a wide variety of instructional strategies on a weekly basis, including strategies recommended by reformers and traditional techniques. Student grade level and class subject area relate to the strategies for instruction that teachers choose. Teachers' instructional choices are partly responses to characteristics of their students. Teachers who participate in recent faculty development are more likely to use recommended teaching practices than those who do not. Four appendixes present detailed tables, standard error tables, technical notes and methodology, and the Teacher Follow-up Survey (questionnaire for current teachers). (Contains approximately 75 references.) (SM)

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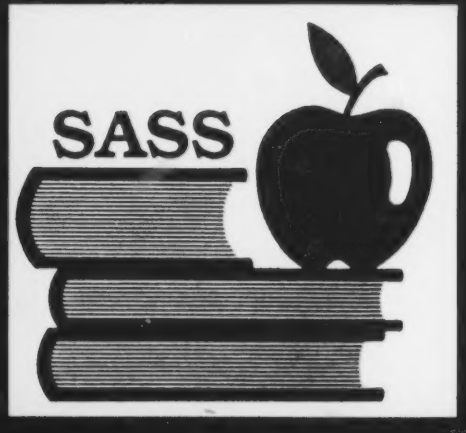
What Happens in Classrooms? Instructional Practices in Elementary and Secondary Schools, 1994–95



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Statistical Analysis Report

June 1999

What Happens in Classrooms? Instructional Practices in Elementary and Secondary Schools, 1994–95

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Executive Summary

As education goals have been expanded and articulated in recent years, policymakers, educators, researchers, and the public have become more interested in how elementary and secondary school teachers teach their students. As part of a larger standards-setting movement intended to improve learning, elementary and secondary school teachers, college and university faculty, other educators, and business leaders have developed voluntary national curriculum standards in many subject areas. In addition, the National Board for Professional Teaching Standards (NBPTS) has developed standards for teaching various subjects at different grade levels. Together, these sets of standards provide both examples of reform-oriented teaching practice and a framework within which to examine teachers' practice at this stage of instruction reform.

This report presents estimates of the proportion of teachers who used a wide range of teaching practices, including both those frequently recommended in curriculum and teaching standards and those that have traditionally been part of teachers' practice. The report presents analyses of data collected in the 1994–95 Teacher Follow-up Survey (TFS:94–95), which administered for the first time a series of items on their instructional practices to a national sample of teachers in kindergarten through grade 12 and in all subject areas.

The report examines teachers' practices in four areas of instruction: the roles that teachers and students play in learning activities, the materials and technology used in the classroom, the kinds of learning tasks that students do both in the classroom and at home, and how teachers assess and evaluate student learning. The report also discusses whether teachers' choices of instructional strategies vary with characteristics of teachers and their students.

Teacher and Student Roles in Instruction

Researchers and policymakers have become increasingly interested in teachers' grouping practices because of both the increasing popularity of cooperative learning techniques in the United States and international research on instructional strategies. In the United States, cooperative learning, which involves dividing a class of students into small groups in which students help each other learn material or collaborate to complete a project, has been advocated by a number of researchers as an effective strategy for improving both student motivation and learning (Cohen 1994; Johnson and Johnson 1994; Slavin 1996). Moreover, cooperative learning is an

instructional strategy for which many teachers are being trained: in 1993–94 50 percent of teachers reported they had attended a professional development session on cooperative learning since the end of the previous school year (Henke et al. 1997).

The TFS:94–95 data indicate that teachers and students work together in a wide range of grouping strategies. Nearly all teachers reported that during the semester preceding the survey they had provided students in their designated class with whole group (98 percent) and individualized instruction (96 percent), and most (86 percent) reported using small group instruction on a weekly basis as well (see table 2).[1] Compared with teachers in higher grades, teachers in lower grades, who spend more time per week with the same group of students, were more likely to use small group instruction and to ask students to discuss as a class the work they had done in smaller groups. In addition, social studies teachers were less likely than teachers in the other core academic subjects—English, mathematics, and science—to use alternatives to whole class instruction.

In addition, many recommendations for instruction reform emphasize that interaction among students and between teachers and students facilitates students' understanding of concepts. In the TFS:94–95, teachers were asked how frequently they used instructional strategies that can be broadly classified into three categories of interaction patterns: teacher talk, teacher-student talk, and student-student talk. All three of these interaction patterns quite commonly occurred in teachers' designated classes on a weekly basis. Most reported that they lectured students (63 percent) and had students listen to and observe their presentations (76 percent) at least once a week, although teachers were more likely to report that they used teacher-student discussion strategies than lectures or presentations (see table 3).

Materials Used in Instruction

In addition to the roles they and their students play in instruction, teachers must decide what materials they and their students will use as they teach and learn, within the constraints imposed by their districts and schools. Print materials have been mainstays of U.S. elementary and secondary education since the first common and charity schools of the 19th century (Kaestle 1983), and materials such as textbooks, supplementary reading materials, and workbooks and worksheets are commonly used today. Many reformers urge teachers to use routine exercises commonly provided in textbooks and workbooks or worksheets less often and instead to provide students with more original source materials (National Council for the Social Studies [NCSS] 1994; National Research Council [NRC] 1996). Moreover, print materials are not the only tools

[1]Teachers responded to the items on their instructional strategies in reference to one of their classes, referred to in the survey and this report as the "designated class."

available to teachers today. In the past decade instruction reformers have promoted the use of concrete materials for mathematics and science lessons among older children as well as elementary grade children (National Council of Teachers of Mathematics [NCTM] 1989, 1991; NRC 1996). As computers, video, and other electronic technologies become both more common in society at large and less expensive, policymakers as well as education reformers are encouraging schools and teachers to make video, the Internet, and CD-ROMs part of everyday instruction (NCTM 1989; NRC 1996).

Teachers were as likely to have students read supplementary materials as textbooks, although use of supplementary reading materials in class was more common among lower grade teachers than higher grade teachers (see table 4). Overall, teachers were less likely to have students read supplementary materials than textbooks at least once a week in their homework assignments, and this was particularly true of mathematics teachers. About two-thirds of teachers had students complete routine exercises on workbook pages or worksheets on a weekly basis. Social studies teachers were more likely than English teachers to rely on textbooks in both classwork and homework.

Teachers commonly used concrete materials in their instruction, and less frequently used electronic media. Whereas 73 percent of teachers reported using manipulatives and models to demonstrate concepts and 88 percent reported using the board or overhead to do so, 55 percent reported using a computer, video, or other electronic technology (see table 5). Although primary teachers were more likely to have students use manipulatives than teachers in other grade levels, 63 percent of high school teachers reported doing so. Mathematics, science, and social studies standards recommend that students use hands-on materials. However, science teachers were more likely to do so on a weekly basis: 79 percent of science teachers had students use hands-on materials weekly, compared with 62 percent of mathematics teachers and 43 percent of social studies teachers.

Classroom and Homework Activities

Reflecting the expansion of education goals to include higher order thinking as well as mastery of basic skills, curriculum standards in all four core academic subject areas emphasize that students' learning activities should include complex tasks that require higher order thinking.[2] University faculty, government agencies, academic and teacher professional organizations, and business leaders have called for teachers to provide more opportunities for students to become proficient at higher order thinking, including solving complex problems that require analyzing,

[2]Core academic subject areas include English, mathematics, science, and social studies.

organizing, and synthesizing information, and communicating effectively both orally and in writing (Marshall and Tucker 1992; Murnane and Levy 1996; NCTM 1989; The Secretary's Commission on Achieving Necessary Skills [SCANS] 1991). Moreover, curriculum standards in several subject areas recommend that teachers include authentic or real-world problems in the activities they ask students to do (NCSS 1994; National Council of Teachers of English/International Reading Association [NCTE/IRA] 1996; NCTM 1989).

The TFS:94–95 data indicate that nearly two-thirds of teachers asked students at least once a week to explain how what they had learned in class related to the real world, and about 60 percent had students work on problems that had several answers or methods of solution (see table 6). Teachers were less likely, however, to have students engage in similar activities in their homework assignments. For example, 13 percent of teachers reported that homework assignments included problems with no obvious method of solution at least once a week. Teachers were more likely, however, to assign routine exercises as homework: 65 percent did.

Older children's greater knowledge and skill compared with younger children might lead teachers of older children to use higher order thinking tasks more often than teachers of younger children. This expectation, however, was not supported by the TFS:94–95 data. Compared with higher grade teachers, teachers in the lower grades were more likely to ask students to explain how what they learned in class was linked to the real world. Primary teachers were more likely than intermediate teachers to ask students to put things in order and explain why they were organized that way (56 percent, compared with 39 percent).[3] Intermediate teachers were more likely than senior high teachers to have students work on problems that required several methods of solution (68 percent, compared with 54 percent) and more likely than middle/junior high teachers to have students work on a project, gather data, or do an experiment at home (35 percent, compared with 18 percent).

Assessment of Student Learning

Researchers and education reformers have paid increasing attention not only to how teachers teach their students but also to how teachers assess and evaluate students' learning (NCTM 1995; Stiggins and Conklin 1992). As the goals for elementary and secondary education have expanded to include higher order thinking skills and as the school-age population becomes more diverse culturally and linguistically, some argue that assessment tools must expand beyond multiple-choice or short-answer tests in order to measure students' progress accurately (Herman, Aschbacher, and Winters 1992; Wiggins 1993). Although they are not without controversy

[3]Primary teachers teach in grades K–3, intermediate teachers in grades 4–6, middle/junior high teachers in grades 7–8, and senior high teachers in grades 9–12.

(Shavelson, Baxter, and Gao 1993; Koretz et al. 1994), portfolios have been promoted as an assessment strategy that allows teachers to evaluate higher order, complex skills and also to provide opportunities for student goal setting and self-evaluation of progress (Arter and Spandel 1992; Darling-Hammond 1994).

Overall, 57 percent of teachers reported using portfolios during the semester preceding the survey (see table 8). Teachers' use of portfolios was strongly associated with the grade level of their students. Nearly three-quarters of all primary grade teachers and 60 percent of intermediate grade teachers used portfolios to assess skills in at least one content area. In contrast, 41 percent of high school teachers reported using portfolios in at least one subject area.

Teachers who use portfolios also use a wide variety of assessment tools, as shown by the kinds of student work they included in their portfolios. Teachers commonly included students' tests and assessments (62 percent) and worksheets (57 percent), and less commonly included homework assignments (35 percent) in portfolios (see table 9). These data indicate that many teachers are combining portfolios with traditional assessment strategies.

Perhaps the most common use of all the assessment information teachers collect is in determining end-of-semester or end-of-year letter grades or formal progress reports. Teachers can consider many factors when they determine student grades (Stiggins and Conklin 1992). While some may rely only on the absolute level of student achievement, others may consider additional factors such as level of effort and degree of growth or improvement shown by their students (Brookhart 1993). Most, however, probably use a mixture of these factors, assigning a higher level of importance to some than to others (Brookhart 1993; Stiggins and Conklin 1992).

In the TFS:94–95, teachers were asked to indicate the importance of various aspects of student performance in assigning grades, including absolute achievement, level of effort, individual improvement, achievement relative to the rest of the class, and portfolio items. Almost all teachers (97 percent) reported that measures of student effort were either very important or extremely important in determining grades (see table 11). Eighty-four percent assigned the same level of importance to students' improvement over time, and 76 percent said that absolute achievement was very important. About one-half (49 percent) of teachers said that portfolio items were very important, and one-quarter said that achievement relative to the rest of the class was very important.

Class, School, and Teacher Characteristics Associated With Teachers' Instructional Practices

Beyond grade level and subject area, parents, educators, and policymakers are interested in whether and how instruction varies among teachers with different qualifications and among students of different backgrounds for at least two reasons. First, as debate regarding how teachers should teach continues, parents, educators, and policymakers worry that some children are consistently more likely to receive lower quality instruction than others. Second, some researchers claim that certain instructional strategies are particularly beneficial for children from low-income backgrounds or those with limited English proficiency (Knapp 1995). To the extent that low-income children or children of minority backgrounds are better served by certain instructional practices, therefore, variation in instructional strategies may indicate appropriate, rather than lower quality, instruction.

Overall, the TFS:94–95 data indicate that public school teachers (88 percent of teachers) were generally more likely than private school teachers (12 percent of teachers) to use recently recommended teaching practices in their classrooms (see table 13).

Teachers' perceptions of student ability were associated with the instructional strategies they used in interesting ways. In the classroom, teachers who taught higher ability students tended to use recommended teaching strategies less often than did teachers who taught lower-ability students (see table 14). With homework assignments, however, teachers of higher ability classes were often more likely than teachers of lower ability classes to use recommended practices.

As the proportion of low-income students in their schools increased, teachers became more likely to facilitate a discussion, use manipulatives or models to demonstrate concepts, have their students use hands-on materials on a weekly basis, and use portfolios to assess student work (table 15). In addition to these recommended practices, teachers in schools with higher proportions of low-income students were also more likely to have students do traditional routine exercises both in class and as homework.

In general, teachers of language minority children used recommended practices more often, and other practices less often, than did other teachers. For example, as enrollment of limited English proficient (LEP) children increased, so did the proportion of teachers who worked with small groups, had the whole class discuss the work they had done in smaller groups, and had students interact primarily with other students in the class (see table 16). Higher LEP enrollment was also associated with greater teacher use of higher level tasks and portfolio assessment of

student work overall and specifically in English, mathematics, science, and other fields (not social studies).

More experienced teachers were less likely than less experienced teachers to use some recommended practices and more likely to use some traditional practices. For example, 35 percent of teachers with 1 to 4 years of experience had the class discuss work students had done in small groups, compared with 32 percent of teachers with 5 to 20 years of experience and 28 percent of teachers with more than 20 years of experience (see table 17). Conversely, teachers with more years of experience were more likely than their less experienced counterparts to report that they had students read textbooks at home, a traditional practice.

Teachers with more advanced degrees were more likely than others to use a number of recommended practices, such as having students work on group projects for individual grades, engage in discussion primarily with other students in class, read supplementary materials in class and as homework, use calculators in class, work on problems with several answers or methods of solution in class, and apply concepts to unfamiliar situations in homework assignments (see table 18). They were also more likely to use portfolios to assess student work.

In general, teachers who had participated in professional development about a year before completing the TFS:94–95 were more likely than those who had not to use recommended teaching practices. For example, teachers who participated in professional development on cooperative learning were more likely to use small group instruction in general, and specifically, to have students confer with other students, work on a group project for individual grades, and discuss with the whole class work they had done in smaller groups (see figure 13). Similar relationships were observed between professional development on education technology and the use of technology in the classroom and between professional development on assessment and the use of portfolios to assess student work.

The TFS:94–95 offers a unique perspective on instruction in elementary and secondary schools in that it provides the first nationally representative data on instruction across subject areas. Consistent with previous research, these data indicate that their students' grade level and the subject area of their classes, as well as other characteristics of students, schools, and teachers themselves, are related to the strategies for instruction that teachers choose. Future research will be able to determine whether teaching has changed in the 1990s as states and localities adopt curriculum standards; as teachers continue to participate in professional development programs; as technology becomes more available; and as the size and demographics of the school-aged population change.

Foreword

The Teacher Follow-up Survey (TFS) was designed to study teacher attrition, including measurements of the proportion of teachers who left in a given year, the characteristics of those who left (leavers) and those who continued to teach (stayers and movers), and the post-teaching activities of leavers. The TFS samples teachers who participate in the Schools and Staffing Survey (SASS), an integrated set of surveys that sample public and private schools, the teachers and principals who work in them, and the districts to which the public schools belong. By linking teachers' responses to data collected in the School Questionnaire, researchers study the rates of attrition among various types of schools as well. The TFS has been administered three times, in 1988–89, 1991–92, and 1994–95, following the three administrations of SASS (1987–88, 1990–91, and 1993–94).

In 1994–95, NCES fielded a new set of items on the instructional strategies used by elementary and secondary school teachers in the TFS for stayers and movers. This report presents the results of the first administration of these items, examining teachers' use of a number of strategies and variation in strategy use by grade level, class subject area, and several class, school, and teacher characteristics.

NCES plans to administer SASS again in 1999–2000, and TFS in 2000–01. Building on the instructional practices data collected in TFS:94–94, the 1999–2000 SASS will include items on the instructional practices of mathematics teachers in grades 8 and above.

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Introduction

With the expansion and articulation of education goals in recent years, policymakers, educators, researchers, and the public have become increasingly interested in the characteristics and quality of instruction at the elementary and secondary levels. They wonder whether the teaching that goes on in the nation's classrooms supports student achievement as outlined in the national education goals. Local, state, and federal funds support professional development programs designed to improve instruction, further evidence of public investment in the quality of teachers' classroom practice. Voluntary national curriculum standards in many subject areas and the teaching standards developed by the National Board for Professional Teaching Standards (NBPTS) provide both examples of reform-oriented teaching practice and a framework within which to examine teachers' practice at this stage of instruction reform.

Within such a framework, this report presents analyses of national survey data on the instructional practices teachers used in the mid-1990s. The remainder of this introduction discusses that framework and the data used in the analyses. The report continues by describing the degree to which teachers at all grade levels and in the core academic subject areas used a variety of instructional practices, both as individual practices and in clusters of practices recommended by contemporary curriculum standards. The report also examines ways in which teachers' use of these practices varied with their characteristics and those of their classes and schools.

Curriculum and Teaching Standards: A Framework for Studying Teachers' Practice

Since the 1980s, general education goals have expanded from mastery of the basic skills to include thinking skills, problem solving, and the ability to work effectively with others (Secretary's Commission on Achieving Necessary Skills (SCANS) 1991). Reflecting these broad goals, the National Council of Teachers of Mathematics (NCTM) developed the first set of voluntary national standards in a subject area in 1989. The NCTM standards commission drew on a broad spectrum of mathematics teachers, education researchers, university mathematicians, mathematics education supervisors, and teacher educators to produce the *Curriculum and Evaluation Standards for School Mathematics* (NCTM 1989). This document outlines the organization's vision of a mathematically literate society. It also provides standards to guide the development of mathematics curricula that would support the realization of that vision. *Curriculum and*

Evaluation Standards was followed by NCTM's *Professional Standards for Teaching Mathematics* in 1991 and *Assessment Standards for School Mathematics* in 1995, publications designed to articulate further the teaching and assessment strategies that would facilitate student achievement of the knowledge and skills outlined in the *Curriculum and Evaluation Standards.*

As part of implementing the GOALS 2000: Educate America Act, in the early 1990s the U.S. Department of Education and other federal agencies funded national standards projects within each of four other core academic subject areas: English/language arts, science, history, and geography. These projects developed standards that specify the concepts and skills to be mastered by K–12 students within these subject areas. As the NCTM standards commission had done, each of these projects included teachers, academics and other professionals in related fields, administrators, parents, and interested members of the public in the process of developing its standards.

Although focused primarily on the content and skills that students should master, these subject area standards and those developed and assessed by the NBPTS note that meeting contemporary education goals will require teachers not only to teach additional skills and concepts but also to expand their teaching and assessment strategies to include new as well as traditional teaching and assessment practices. Taken together, the standards address four aspects of instruction. First, they describe the kinds of roles that students and teachers should play as they teach and learn. Noting that contemporary theoretical and research perspectives on learning and development assume that conceptual understandings are actively constructed by the learner, often through discourse with others, standards in several subject areas note that students should talk with each other and with their teachers about ideas and concepts and that a variety of instructional grouping strategies can facilitate such discourse.

Second, the standards acknowledge the increasing importance of technology in all aspects of contemporary life and provide examples, if not explicit recommendations, regarding what students must know and be able to do with respect to technology. They also suggest how teachers can use technology to facilitate student mastery of these skills. Third, the standards address the kinds of learning tasks that are believed to facilitate the development of the higher order thinking skills and mastery of the content knowledge specified in the standards. Fourth, the standards recommend that teachers use a variety of assessment strategies to measure student mastery of content knowledge and skills.

This report presents analyses of 1994–95 national survey data on teachers' use of various instructional strategies that fall within the four dimensions of practice listed above. In addition, because the standards documents recommend groups of practices rather than a list of individual

practices, the report presents data regarding the degree to which teachers used clusters of strategies recommended in various curriculum standards.

Furthermore, the report examines whether teachers' use of these practices varied depending on students' linguistic or socioeconomic backgrounds or teacher characteristics such as their education attainment, teaching experience, and participation in professional development programs. Some have expressed concern that children of linguistic minority backgrounds or lower socioeconomic status have teachers with less training and experience, and that these teachers' lesser training and experience results in lower quality instruction for children already disadvantaged (Guthrie 1998; National Commission on Teaching and America's Future (NCTAF) 1996, 1997). Given these concerns, it is useful to examine both whether teachers of disadvantaged students choose different instructional practices and whether teachers whose experience, education, and professional preparation vary also make different decisions regarding instruction.

Finally, historians of education have described how change in teaching occurs slowly and with some difficulty (Cuban 1993). Although curriculum and teaching standards have been under development or completed since the late 1980s, by the mid-1990s little widespread change can be reasonably expected. Consequently, it is useful to think of the data presented in this report as baseline data, that is, points of comparison with future examinations of what happens in classrooms.

Data Source

The data upon which this report is based were collected as part of the 1994–95 Teacher Follow-up Survey (TFS:94–95). The National Center for Education Statistics (NCES) conducts the TFS one year after each administration of the Schools and Staffing Survey (SASS), a set of national surveys of public and private schools and the teachers and administrators who work in them. First administered in the late 1980s, when widespread teacher shortages were predicted, the TFS was designed largely to study teacher attrition, including both why teachers left the profession and what they did after teaching.

In 1994–95, NCES used the TFS as an opportunity to administer for the first time a series of items on instructional practices to a nationally representative sample of elementary and secondary teachers in all subject areas. Although both NCES and the National Science Foundation have included instructional practice items in previous national surveys of teachers, none of those surveys included teachers in all grade levels and all subject areas of elementary and secondary instruction. The TFS:94–95 data, therefore, present a unique opportunity to study how classroom instruction in the United States varies with subject area and grade level.

Measures

Teachers reported the frequency with which they used various instructional practices within a designated class using a 5-point scale with the following response categories: "almost every day," "once or twice a week," "once or twice a month," "once or twice a semester," and "never." In order to facilitate comparisons among practices, this report, for the most part, presents the proportion of teachers who reported using practices on at least a weekly basis. Some practices, such as using portfolios to train students to reflect on their overall progress or to make graduation or placement decisions, are not likely to be used on a weekly basis. For such practices this report presents the proportion of teachers who reported using them at an appropriate frequency.

Some of the practices reported are those recommended in the national voluntary curriculum standards for the core academic subject areas, including the standards published by the National Council of Teachers of English (NCTE) and the International Reading Association (IRA), the National Council of Teachers of Mathematics (NCTM), the National Research Council (NRC), the National Council for the Social Studies (NCSS), the National Center for History in the Schools (NCHS), National Geographic Education and Research (NGER), and the National Board for Professional Teaching Standards (NBPTS). In order to estimate how widely clusters of recommended practices were used, summary variables were created to indicate how many of the practices that were recommended in the curriculum standards for their subjects and included in the survey were used by teachers in each of the four core academic subject areas: English, mathematics, science, and social studies. These variables are described in more detail in the text below and in the technical notes.

Although the analyses presented in this report begin to address the question "What happens in classrooms?" they provide only one perspective on this multi-faceted question, and many other studies are required to provide a more complete picture of elementary and secondary instruction. Survey instruments can address questions regarding the frequency with which various kinds of teachers use a given practice and the degree to which a practice has become "common practice" among teachers nationwide, under the assumption that teachers interpret the names or descriptions of the practice consistently. This assumption may be tenuous, however. Teachers may have quite different ideas about the kind of practice that is meant by a given survey question, depending on the grade level and subject area they teach, their experience with the practice or similar practices, and the training they have received in the practice.

Furthermore, while surveys may address questions regarding the frequency of use, they cannot capture other important characteristics of teachers' instruction. For example, two teachers may use the same technology or materials to teach a given concept, but may explain that concept quite differently depending on how well they understand the material. Moreover, teachers may

not be able to estimate very accurately the frequency with which they used practices over the course of a semester. Furthermore, the current popularity of some instructional strategies among reformers may create incentives for teachers to overestimate the frequency with which they use recommended practices. Therefore, the TFS:94–95 data are probably most useful for comparing the relative frequency at which different groups of teachers use rather general practices rather than precise estimates of the percentage of all teachers who used a particular practice.

Sample

The TFS:94–95 data include responses from 3,994 public and private school teachers who had participated in the 1993–94 Schools and Staffing Survey (SASS:93–94). Because teachers were not eligible for the TFS:94–95 sample unless they had been teaching in 1993–94, the TFS:94–95 sample is not representative of the entire 1994–95 teacher population. It excludes those who were first-year teachers in 1994–95 and experienced teachers who were not teaching in 1993–94 and thus could not be included in the SASS:93–94 sample. Together these teachers represent 4 to 6 percent of the teacher work force (Rollefson and Broughman 1995). In addition to these small subsets of the total teacher population that were excluded from the TFS survey population, teachers whose students were outside the K–12 grade range were excluded from the samples used for these analyses. Therefore, these analyses were conducted on a sample of 3,894 teachers.[4]

[4]The sample of teachers used in these analyses differs slightly from at used in similar analyses reported in *America's Teachers: Profile of a Profession, 1993–94* (Henke et al. 1997) in that the sample used in this report included teachers in Bureau of Indian Affairs (BIA) and tribal schools and selected teachers based on their 1994–95 grade level and subject area designations, whereas the *America's Teachers* sample excluded teachers in BIA or tribal schools and selected teachers based on their 1993–94 grade levels and main assignment fields. Therefore, some estimates differ slightly between the two reports.

How Frequently Did Teachers Use Various Instructional Practices?

Many times throughout the day teachers must determine, within certain constraints, the roles that they and their students will play as they work together, the materials and technology they will use, the learning tasks on which they will work, and how student learning will be assessed or evaluated. Although these aspects of instruction have been researched and debated among educators and researchers for decades, they have reached the forefront of education reform debate in recent years as national curriculum and teaching standards have included or implied recommendations for teachers regarding these aspects of instruction.

In addition to the subject area standards, the National Board for Professional Teaching Standards (NBPTS) has developed standards for teaching excellence and assessments that certify teachers as having met those standards. In contrast to the subject matter standards groups, the NBPTS focused less on subject area than on pedagogy.[5] The NBPTS standards emphasize teacher flexibility in instruction, recommending that teachers be well grounded in the advantages and disadvantages of a large repertoire of practices and choose the most appropriate teaching strategies for a given lesson based on their learning objectives, their students' current levels of understanding and skill, available time and material resources, and so on. Similarly, the subject matter standards, which focus on content far more than instructional strategies, suggest that teachers add the recommended strategies to their repertoires, not change their practice wholesale.

This section of the report presents data regarding the proportion of teachers who reported using both traditional practices and those that have been recommended or are currently under discussion among researchers and educators at least once a week. The practices have been grouped into four aspects of teaching: the roles that teachers and students play in learning activities, the materials and technology used in the classroom, the kinds of learning tasks in which students engage both in the classroom and at home, and how teachers assess and evaluate student learning. Following the discussion of teachers' use of practices in these areas, this section presents an analysis of the number of recommended practices that teachers in the four core academic subject areas incorporate in their regular teaching routines.

[5]The NBPTS wrote separate standards for instruction at various grade levels and in various subject areas, acknowledging the important roles that children's developmental stage and subject matter play in determining appropriate instructional methods.

The section focuses on variation in teachers' use of instructional practices by both grade level and subject area for several reasons. First, previous research has indicated, and one might reasonably expect, that teachers' instructional strategies vary widely with students' age and developmental level. Elementary teachers will be more likely than secondary teachers to engage in practices that are well suited to young children. Similarly, special education teachers often use quite different strategies for instructing their students than do teachers of other students in order to accommodate their special needs. Second, teachers use different practices in different subject areas, customizing instruction to the type of learning they want to encourage (Grossman and Stodolsky 1995; Sosniak and Stodolsky 1993; Stodolsky 1988). Subject area differences in instructional strategies have been observed both between and within teachers (Stodolsky 1988).

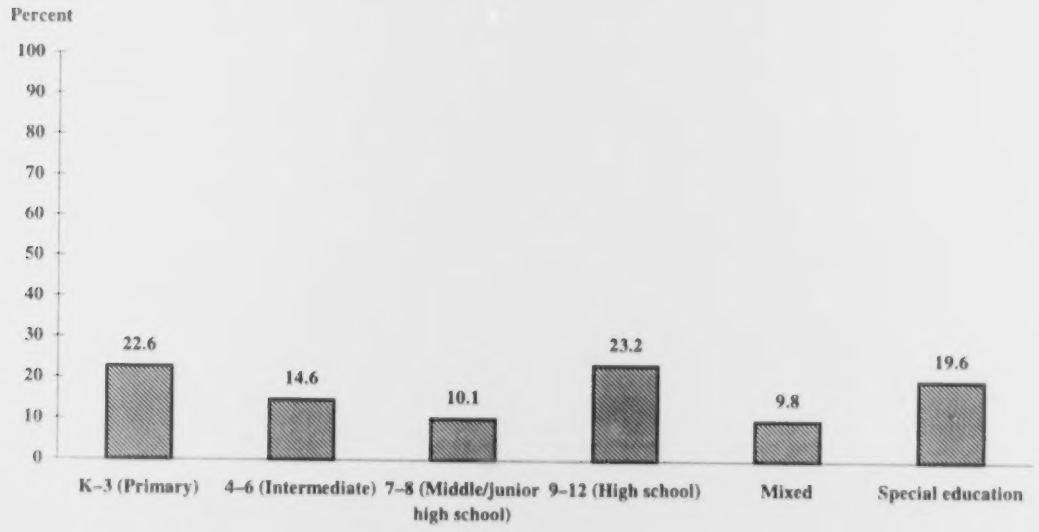
Third, the grade level and subject area of the class about which teachers reported their instructional strategies, that is, their designated class, are likely to affect their responses in the TFS because of the way the survey was designed. Teachers who taught different subjects to several groups of students during the day, usually secondary school teachers, reported on activities in the first class of the day. Teachers who taught one group of students multiple subjects throughout the day, often elementary school teachers, reported on their activities for the whole day.[6] Asking teachers to report on one class was necessary to provide a common reference point or scale for their responses. Nevertheless, because the organization of teachers' classes varied, their opportunities to use these practices within the designated class varied as well. Therefore, given the results of previous research and the differences in the amount of time about which teachers in different grade levels and subject areas reported, this report focuses on teachers' use of practices by grade level and subject area.

Based on their reports of the grade levels of the students in their designated class, teachers were grouped into six categories. First, because special education teachers often have smaller classes and need to use alternative strategies to meet their students' needs, teachers who said that their designated class was a special education class were disaggregated from the grade level categories. Second, the remaining teachers were grouped into four categories according to the grade levels of their students: kindergarten through third grade (primary), fourth through sixth grades (intermediate), seventh and eighth grades (middle or junior high school), grades 9–12 (high school). Finally, some teachers have students of more than one grade level in a given class. When

[6]Elementary school teachers tend to work in self-contained classrooms, whether on their own or with another teacher in a team-teaching arrangement: in 1993–94, 84 percent of teachers whose main assignment fields were kindergarten or general elementary classes taught in self-contained classrooms and another 10 percent taught in a team (Henke et al. 1997). These teachers spend most of each day with the same group of students. In contrast, 87 to 93 percent of teachers whose main assignments were mathematics, science, or social studies taught departmentalized classes. Among English/language arts teachers, 78 percent taught departmentalized classes and another 11 percent taught pull-out classes. Both departmentalized and pull-out classes limit the time teachers spend with a given group of students to one period, usually less than an hour, per day (Henke et al. 1997).

the grade levels represented in a teacher's designated class bridged the four grade-level categories (e.g., a class with children in grades 3 and 4), the teacher's grade level was classified as "mixed." Figure 1 presents the proportion of teachers who taught at various grade levels using this classification.

Figure 1—Percentage distribution of teachers according to grade level of their designated class: 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors provided in table B12. Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

To determine the subject area of the designated class, teachers were classified into nine categories on the basis of their responses to the item about the subject matter of the designated class. Fifty-five subject area categories were collapsed into these nine categories as foliows: (1) K–general elementary (i.e., kindergarten and general elementary); (2) English/language arts (i.e., English/language arts and reading); (3) mathematics; (4) science (i.e., physical science, biology/life science, chemistry, geology/earth science/space science, physics, and general and all other science); (5) social studies; (6) special education; (7) bilingual/ESL; (8) vocational education (i.e., accounting, agriculture, business, marketing, health occupations, industrial arts, trade

and industry, technical, and other vocational–technical education); and (9) all others. Further details on the subject area classification are provided in the technical notes.

Grade level and subject area, however, are not independent of each other. Although some subject-matter specialists (for example, mathematics or science teachers) teach in the elementary grades, 90 percent of primary (grades K–3) teachers and 65 percent of intermediate (grades 4–6) teachers reported that the subject area of their designated class was kindergarten or general elementary (table 1). Not surprisingly, middle/junior high (grades 7–8) and high school (grades 9–12) teachers were more likely to teach English/language arts, mathematics, science, social studies, and vocational education during their designated classes.

Table 1—Percentage distribution of teachers according to subject area of designated class, by class grade level: 1994–95

Class grade level	General elementary	English/ language arts	Mathematics	Science	Social studies	Special education	Bilingual/ ESL	Vocational education	Other
Total	31.8	9.3	6.4	5.9	5.4	19.6	0.9	4.8	15.7
K–3 (Primary)	89.8	3.4	0.1	—	0.0	(*)	1.5	0.0	4.7
4–6 (Intermediate)	64.7	8.5	6.7	5.3	2.2	(*)	0.7	1.0	10.9
7–8 (Middle/junior high)	4.2	24.0	15.1	14.2	12.1	(*)	0.7	7.8	21.9
9–12 (High school)	—	16.2	14.7	14.3	15.0	(*)	0.6	14.8	24.1
Mixed	15.9	10.9	4.9	3.3	4.1	(*)	2.4	4.9	53.7
Special education	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)

—Too few cases for a reliable estimate.

*Special education teachers were defined as separate category in both grade level and subject area variables.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

Thus, although not identical, these variables overlap substantially. Therefore, for ease of exposition, each discussion of a set of practices first reports grade-level differences, recognizing that teachers in the elementary grades (grades K–6) include both general elementary teachers and subject-matter specialists. Each discussion of a set of practices continues by discussing differences among teachers in the core academic subject areas—English/language arts, mathematics, science, and social studies—including both departmentalized teachers in secondary grades (grades 7–12) and some elementary-level subject-matter specialists. The report focuses on the

core academic subject areas because these subjects are of the greatest interest among the general public, educators, and policymakers and they have the largest samples of teachers.

Teacher and Student Roles in Instruction

Among teachers' daily decisions regarding instruction are those concerning the roles that they and their students play during a given activity. Teachers have many options in this regard. They may serve as experts, as occurs when teachers lecture, do presentations, or orally quiz students to determine the accuracy of their understandings. They may act as consultants in more student-directed activities, as when students work individually or in groups on projects or presentations. They may coach students while they puzzle through a problem alone, in small groups, or as a class. They may serve as diagnosticians, determining individual students' learning needs and prescribing activities designed to meet those needs.

Varying teacher roles imply different student roles. Teachers may intend for students to learn information they have to impart; to develop concepts or solve problems themselves through trial and error or guided thinking; to teach and learn from each other in pairs, small groups, or as a class; or to practice skills individually. This section of the report addresses the roles that students and teachers play by examining the size of the groups with whom teachers work, the kinds of groupwork activities they have their students do, and the patterns of interaction between teachers and students and among students.

Grouping Practices and Groupwork Strategies

Researchers and policymakers have become increasingly interested in teachers' grouping practices because of both the increasing popularity of cooperative learning techniques in the United States and international research on instructional strategies. In the United States, cooperative learning, which involves dividing a class of students into small groups in which students help each other learn material or collaborate to complete a project, has been advocated by a number of researchers as an effective strategy for improving both student motivation and learning (Cohen 1994; Johnson and Johnson 1994; Slavin 1996). Moreover, cooperative learning is an instructional strategy for which many teachers are being trained: in 1993–94 50 percent of teachers reported they had attended a professional development session on cooperative learning since the end of the previous school year (Henke et al. 1997).

While researchers and educators in the United States advocate for more cooperative groupwork, some international researchers have, over the years, suggested that whole class instruction may be more effective. In the 1980s, researchers suggested that Asian students' greater

exposure, compared with students in the United States, to direct, whole class instruction might account, in part, for their greater achievement (Stevenson and Stigler 1992). More recently, the Third International Mathematics and Science Study (TIMSS) used a different measure to study grouping strategies among teachers in different countries and did not find that fourth-grade teachers in the United States were more likely to use groupwork than were those in other countries (U.S. Department of Education 1997b). TIMSS also found that U.S. fourth-graders' achievement in mathematics and science compared favorably with that of most other participating countries.

Neither the TIMSS findings nor those of the earlier studies could disentangle the achievement effects of various grouping strategies from the effects of differences in the tasks that teachers in different countries posed for their students or any number of other instruction variables. Nevertheless, because the complex question of the relationship between grouping strategies and achievement remains an important research question, the 1994–95 Teacher Follow-up Survey addressed teachers' use of various grouping patterns by asking teachers how frequently they taught the whole class, worked with small groups, and worked with individual students in their designated classes during the semester preceding the survey. Teachers quite commonly used all of these strategies. Nearly all teachers reported that during the semester preceding the survey they had provided students with whole group (98 percent) and individualized instruction (96 percent), and most (86 percent) reported working with small groups on a weekly basis (table 2).

Teachers' work with small groups may or may not involve cooperative learning, which is usually defined as small group learning activities in which students interact with each other more than the teacher and depend on each other to learn something or complete a task. Other practices on the survey more closely resemble cooperative learning tasks, however, and suggest the degree to which teachers may be adopting cooperative learning techniques. Two-thirds of teachers reported that their students conferred with each other about their work at least once a week, although relatively fewer reported that they assigned students group projects that were graded on an individual (33 percent) or group (18 percent) basis.

Observed differences in teachers' use of these strategies are consistent with previous research on teachers' grading practices (Brookhart 1993). This earlier work has indicated that grading groupwork poses significant measurement and ethical challenges for teachers. Teachers find it difficult to assign grades to individual students for work done in groups because they do not know how much of a project the individuals are responsible for. On the other hand, assigning group grades for groupwork does not provide teachers, students, or their parents with information on individual students' achievement. In both cases, teachers want neither to penalize individual

Table 2—Percentage of teachers who used various grouping patterns at least once a week during the last semester, by class grade level and subject area: 1994–95

	Teacher activities			Student activities				
Class grade level and subject area	Provided whole group instruction	Worked with small groups	Worked with individual students	Worked individually on projects	Conferred with other students	Group project, individual grade	Group project, group grade	Whole class discussed group work
Total	97.8	86.2	96.3	46.2	66.0	32.9	18.1	31.2
Class grade level								
K–3 (Primary)	99.3	95.7	98.7	54.5	67.7	25.9	13.0	40.0
4–6 (Intermediate)	98.7	87.6	97.5	54.7	69.8	44.2	25.3	41.7
7–8 (Middle/junior high)	98.9	72.9	92.1	32.6	62.1	28.1	15.9	19.9
9–12 (High school)	98.1	75.5	93.7	38.8	66.4	33.6	17.7	23.4
Mixed	96.2	84.6	95.5	48.9	61.2	34.4	21.8	28.7
Special education	95.3	94.6	98.3	44.7	65.0	33.6	18.4	29.5
Class subject area								
General elementary	99.2	95.0	99.4	58.4	70.9	33.0	19.9	45.0
English/language arts	97.1	74.3	97.1	39.2	59.9	26.4	12.5	22.5
Mathematics	99.8	87.9	98.9	27.6	74.4	28.3	13.1	24.3
Science	100.0	85.0	94.1	33.5	67.2	37.8	18.7	27.1
Social studies	99.5	61.3	85.9	30.6	52.3	29.1	12.1	23.4
Special education	95.3	94.6	98.3	44.7	65.0	33.6	18.4	29.5
Bilingual/ESL	100.0	77.7	99.8	56.4	61.1	42.6	16.1	28.6
Vocational education	93.8	75.7	96.5	68.6	72.7	38.6	28.1	19.2
Other	97.5	77.2	90.3	37.8	59.9	34.8	18.6	21.5

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

students whose groups failed to cooperate nor to reward students who did not contribute their fair share to the group's product. Therefore, teachers may reserve groupwork for nongraded instructional activities in order to avoid these difficulties.

In addition to creating grading dilemmas for teachers, groupwork can be rather time consuming, and the total amount of time that teachers spend with a given group of students is likely to affect how often they use groupwork. A typical groupwork activity, for example, might involve the teacher explaining the task to students, students breaking into groups and doing the task, and the class reconvening to compare the work done by the various groups. Accomplishing all of this within the 45- to 50-minute class periods typically available to secondary teachers in

departmentalized classes is a challenge, particularly if teachers are also following recommendations to make their learning tasks challenging and complex (Canady and Rettig 1995; O'Neil 1995).

Therefore, it is not surprising that, compared with teachers in higher grades, teachers in lower grades, who spend more time per week with the same group of students, were more likely to work with small groups and to ask students to discuss as a class the work they had done in smaller groups. Similarly, special education teachers, who, like elementary teachers, are more likely than secondary teachers to work in self-contained classrooms (Henke et al. 1997), were as likely as K–3 (primary) teachers and more likely than teachers in grades 4–12 to use small group instruction whatever their grade level.

Time may also be a factor in the degree to which teachers have students work individually on longer term assignments such as projects or presentations. Elementary teachers tended to have students work individually on projects and presentations in class more often than teachers at the middle/junior high or high school level.

Finally, social studies teachers seem to be less likely than teachers in the other core academic subjects—English, mathematics, and science—to use alternatives to whole class instruction. Social studies teachers were less likely than mathematics and science teachers to work with small groups, and less likely than English and mathematics teachers to work with individual students.

Teacher and Student Interaction Patterns

Many recommendations for instruction reform emphasize that interaction among students and between teachers and students facilitates students' concept development. Constructivist approaches to teaching and learning assert that children learn new concepts by expressing their own ideas, being challenged by the ideas and questions of others, and then reformulating their understandings (Ginsburg and Opper 1988). Drawing on such research, curriculum standards in English/language arts and science explicitly recommend that students spend time interacting with each other, and the National Council of Teachers of Mathematics (NCTM) curriculum and teaching standards in particular emphasize teachers' roles in facilitating discourse about mathematics in the classroom (National Council of Teachers of English/International Reading Association [NCTE/IRA] 1996; NCTM 1989, 1991). The NBPTS teaching standards stress flexibility in teachers' use of various interaction patterns, recommending that teachers select interaction patterns appropriate to the objectives of the lesson (NBPTS 1996).

Although often related to the grouping strategies discussed above, interaction patterns between teachers and students or among students can vary even within a grouping strategy. For example, small group instruction is often suggested as a way to facilitate student-student interaction, although teachers may lecture small groups of students as well as the class as a whole (Cohen 1994). On the other hand, whole class instruction can involve student-student interaction, teacher-student interaction, and teacher presentations in which teachers do most of the talking and students tend to listen more than to interact.

Therefore, this section further addresses the issue of teachers' and students' roles in teaching and learning by going beyond grouping strategies to the kinds of interactions that occurred between students and teachers and among students. In the TFS:94–95, teachers were asked how frequently they used instructional strategies that involved a range of interaction patterns broadly classified into teacher talk, teacher-student talk, and student-student talk. Teachers' responses indicate that all three of these interaction patterns quite commonly occurred in their designated classes on a weekly basis. Many teachers reported that they lectured students (63 percent) and had students listen to and observe their presentations (76 percent) at least once a week (table 3).

More teachers engaged in teacher-student discussions of various sorts: having students engage in discussion primarily with the teacher (85 percent), leading a question-and-answer session (85 percent), having students respond orally to open-ended questions (85 percent), or having students respond orally to questions that tested recall (90 percent). Many teachers also adopted strategies involving greater student-student interaction, including teacher-facilitated discussion (92 percent), students discussing work primarily with other students in the classroom (74 percent), and having students lead whole group discussions (50 percent).

Grade level appears to be an important factor in determining teachers' use of different interaction patterns, although the findings followed no consistent pattern. As grade level increased, the proportion of teachers who reported that they facilitated a discussion, led a question-and-answer session, asked students to recall facts by answering questions, and had students engage in discussion primarily with teachers and primarily with other students tended to decrease.[7] Teachers in the intermediate and high school grades, but not middle/junior high school grades, were more likely than primary teachers to lecture students, although they were no more or less likely to have students listen to or observe teacher presentations.

[7]As discussed above, these differences may result from differences in the amount of time that teachers spent with the designated class each week.

Table 3—Percentage of teachers who used various means of delivering information or instruction to their students at least once a week during the last semester, by class grade level and subject area: 1994–95

Class grade level and subject area	Strategies involving teacher talk		Strategies involving teacher-student talk				Strategies involving student-student talk		
	Teacher lectured students	Teacher presentations	Students talked primarily with teacher	Teacher led question–answer session	Students answered recall questions	Students answered open-ended questions	Students led whole group discussion	Students talked primarily with students	Teacher facilitated discussion
Total	63.0	75.8	85.4	85.4	90.4	85.4	50.4	73.5	91.5
Class grade level									
K–3 (Primary)	56.7	80.1	92.4	92.1	96.4	91.0	57.6	85.9	97.2
4–6 (Intermediate)	72.4	77.8	91.4	91.5	95.1	90.4	58.8	77.2	96.1
7–8 (Middle/junior high)	65.5	77.4	81.9	84.3	83.7	80.9	46.9	62.4	90.5
9–12 (High school)	72.8	76.9	80.9	79.0	88.0	80.7	40.9	65.3	86.1
Mixed	52.8	65.7	75.2	74.5	82.9	78.7	46.6	63.6	85.2
Special education	55.4	72.6	85.1	86.7	90.0	86.3	50.8	76.8	91.8
Class subject area									
General elementary	65.5	80.9	93.8	93.8	95.7	92.5	60.0	86.9	98.1
English/language arts	61.6	70.9	81.6	90.4	89.5	89.4	50.7	72.1	93.7
Mathematics	72.5	84.2	87.4	82.6	91.2	80.2	49.5	65.6	86.1
Science	84.8	73.0	82.7	90.7	92.2	74.5	45.0	64.5	94.8
Social studies	78.3	76.7	85.0	88.0	91.3	87.4	38.0	61.4	95.9
Special education	55.4	72.6	85.1	86.7	90.0	86.3	50.8	76.8	91.8
Bilingual/ESL	43.3	68.4	80.6	76.9	87.5	83.5	38.4	86.1	95.6
Vocational education	70.2	78.5	75.0	69.0	78.4	72.6	32.4	53.9	75.6
Other	49.6	69.6	74.9	67.7	83.1	76.9	43.3	59.2	80.8

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

In general, teachers of core academic subjects were more likely to use strategies that involved teacher-student interaction than student-student interaction. Most social studies teachers talked with students (85 percent), led a question-and-answer session (88 percent), or had students answer recall (91 percent) or open-ended questions (87 percent) on a weekly basis. Fewer had students lead discussions (38 percent) or talk with each other (61 percent). Similarly, English teachers were more likely to lead a question and answer session (90 percent) than to have students lead discussions (51 percent) or talk with each other (72 percent) on a weekly basis. Mathematics and science teachers' interaction patterns were similar.

Among teachers in the core academic subject areas, English teachers were less likely than others to engage in teacher talk. English teachers were less likely than science and social studies teachers to lecture their students, and less likely than mathematics teachers to have their students listen to or observe teacher presentations.

Materials Used in Instruction

In addition to the roles they and their students play in instruction, teachers must decide what materials they and their students will use as they teach and learn. Print materials have been mainstays of U.S. elementary and secondary education since children studied primers and Bibles in the first common and charity schools of the 19th century (Kaestle 1983). Print materials are not the only tools available to teachers these days, however. Although concrete materials such as blocks and other geometric figures have also been used, at least in early childhood education, since the nineteenth century (Kaestle 1983), in the past decade instruction reformers have promoted their use for mathematics and science lessons among older children as well (NCTM 1989, 1991; National Research Council [NRC] 1996). More recently, as computers, video, and other electronic technologies become both more common in society at large and less expensive, policymakers as well as education reformers are encouraging schools and teachers to make video, the Internet, and CD-ROMs part of everyday instruction (NCTM 1989; NRC 1996).

Reformers advocate a wide variety of instructional materials and technologies, but teachers choose from the materials provided by their schools and school districts. Textbooks, other print materials, technology and software, and concrete materials such as manipulatives for mathematics instruction are purchased or authorized for purchase by state-level, district-level, and school-level committees, or chosen by individual teachers, depending on the locality. In addition, districts and schools often provide teachers with small budgets for materials and teachers often report spending their own money to supplement the resources provided by their districts and schools. Consequently, the materials that teachers use are a function of choices they make and choices made by states, districts, and schools regarding whether to achieve their curricular goals through textbooks, other print materials, or CD-ROMs. This section of the report discusses teachers' use of print materials, hands-on materials, and electronic technologies as tools for presenting material to students or as tools for students to use in learning activities at school and at home.

Print Materials Used in Class and in Homework Assignments

As contemporary goals for instruction place greater emphasis on higher order skills such as synthesizing information from multiple sources and solving complex problems, standards writers

in the core academic subject areas have recommended that students work with a variety of print materials. English/language arts, history, geography, and social studies standards discuss the importance of having students read not only textbooks but also literature, historical narratives, biographies, primary sources such as journals and diaries, periodical literature, and other reference works as they develop interpretations of texts, study strategies for communication, or come to understand historical events or the culture of a region (National Center for History in the Schools [NCHS] 1996; National Council for the Social Studies [NCSS] 1994; NCTE/IRA 1996; National Geographic Education Research [NGER] 1994). In mathematics, the NCTM (1989) standards recommend that K–12 students spend less time doing worksheets or workbooks that emphasize routine practice and more time discussing mathematical ideas with their teachers and each other.

In the TFS:94–95, teachers were asked how frequently they had their students read or use various print materials in the classroom, including textbooks, supplementary printed materials, and workbooks or worksheet exercises that emphasize routine practice. Teachers were also asked to estimate how frequently their homework assignments involved reading textbooks or supplementary materials and working on routine exercises from a worksheet, workbook, or textbook.

Although textbooks and workbooks or worksheets emphasizing routine practice were common, they were not used universally and teachers assigned work with supplementary materials at least as often. Many teachers reported that their students used textbooks (74 percent) and supplementary printed materials (78 percent) in class at least once a week (table 4). About two-thirds of teachers had students do worksheets or workbook exercises emphasizing routine practice in class and at home weekly (68 and 65 percent, respectively). Overall, teachers were less likely to have students read supplementary materials than textbooks in their homework assignments, and this was particularly true of mathematics teachers.

Teachers' use of various print materials in class or homework assignments varies with their students' grade level. Compared with teachers in higher grades, teachers in lower grades were more likely to have students read supplementary materials in class and as homework and work on routine exercises in class. The proportion of teachers who had students read supplementary materials in class decreased from 91 percent of primary teachers to 66 percent of high school teachers, and the proportion who had students read supplementary materials as homework decreased from 57 percent among primary teachers to 43 percent among high school level teachers. In addition, intermediate teachers were more likely than teachers in primary or middle/junior high grades to have students read textbooks in class (87 percent compared with 67 and 75 percent, respectively), perhaps because intermediate students have higher skills than primary students and spend more time with their teachers in class than middle/junior high school students, on average.

Table 4—Percentage of teachers whose students used various materials in class or in homework assignments at least once a week during the last semester, by class grade level and subject area: 1994–95

Class grade level and subject area	Used in class			Used in homework		
	Textbooks	Supplementary printed materials	Routine exercises	Read textbooks	Read supplementary materials	Routine exercises
Total	73.7	78.2	67.9	62.9	47.8	65.2
Class grade level						
K–3 (Primary)	67.1	90.6	80.5	58.0	57.0	66.1
4–6 (Intermediate)	86.7	84.3	76.8	74.4	57.0	75.9
7–8 (Middle/junior high)	75.2	69.0	67.6	61.3	38.7	63.2
9–12 (High school)	81.2	66.4	57.6	74.1	43.3	69.3
Mixed	55.9	69.9	44.2	44.6	37.8	47.3
Special education	70.9	82.0	71.1	56.7	45.6	61.2
Class subject area						
General elementary	79.2	91.3	86.0	66.8	60.3	75.6
English/language arts	75.3	78.9	53.4	80.0	59.8	58.4
Mathematics	90.5	67.3	75.5	62.8	23.2	86.4
Science	82.1	69.1	74.8	75.3	47.7	76.3
Social studies	94.0	65.5	63.6	94.8	47.6	73.5
Special education	70.9	82.0	71.1	56.7	45.6	61.2
Bilingual/ESL	71.3	88.9	69.8	48.1	38.5	66.7
Vocational education	69.7	69.5	54.5	51.1	41.4	49.9
Other	49.6	60.7	35.8	41.5	31.1	41.8

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95

With few exceptions, the majority of teachers in all four core academic subjects had students use all three kinds of materials on a weekly basis both in class and at home. There were some differences among teachers of these subjects, however. Mathematics teachers were less likely than teachers in the other core academic areas to have students read supplementary materials as homework (23 percent compared with 48 to 60 percent), although they were no less likely to have them use supplementary materials in class. Although mathematics problems are probably the prototypical "routine exercises," only English teachers were less likely than mathematics teachers to have students do routine exercises in class and at home. Nearly all social studies teachers had students read textbooks both in class (94 percent) and at home (95 percent), compared with 75 and 80 percent of English teachers, respectively.

Education Technologies and Materials

Beyond print materials, many educators, researchers, and policymakers emphasize the roles that electronic technologies can play in learning. Some argue that in a society that is becoming increasingly dependent on computers and other electronic technologies, computer literacy is an important education outcome in itself (Dede 1998; International Society for Technology in Education 1998). In addition, cognitive science researchers have developed software that creates electronic environments in which students can learn concepts and skills such as physics principles by doing virtual experiments or develop reading comprehension skills by comparing what they learn from video segments with what they read (Hunt and Minstrell 1994; Cognition and Technology Group at Vanderbilt University 1994).

Computers also offer data retrieval and communications capabilities that can enhance learning. CD-ROMs and the Internet can provide students with entire libraries of information in forms previously unavailable, and allow students to communicate with others around the world. Both CD-ROMs and the World Wide Web offer newsreel footage or audio recordings of historical events, pictures of the earth from satellites in space, and clear reproductions of paintings from art museums around the world. The Internet also allows electronic communication among students around the world and between students and scientists or artists.

Finally, computers are not the only electronic technologies that are recommended by instruction reformers. Mathematics and science educators note that doing computations by hand can get in the way when students are working toward some higher level learning objectives. In these situations, calculators can be helpful tools for learning (NCTM 1989, 1991; NRC 1996). English/language arts standards recommend that students become adept at communicating not only with written text but also with audio and video technologies (NCTE/IRA 1996). Social studies standards note that video can be a source of information as well as written materials (NCSS 1994).

However, although computers and other technologies appear to offer many ways to enhance student learning, many caveats are associated with their use as well. Although many schools have invested in hardware and Internet connections, some have yet to acquire the machines or wiring needed to take advantage of the latest computer technologies (Jerald 1998; Mendels 1998). When technology is available, teachers must use it, and use it appropriately, for students to benefit. Recent analyses of data from the National Assessment of Educational Progress (NAEP) indicate that some types of computer applications are more effective than others in raising students' mathematics achievement (Wenglinsky 1998). In fact, these analyses show that some uses of computers are counterproductive to student learning in mathematics. Consequently, adequate

teacher training is critical to employing computers and other technologies in the most productive ways (Healy 1998; Means et al. 1993; Wenglinsky 1998).

The TFS:94–95 data address the question of how often teachers use various types of technologies, and indicate that teachers were less likely to use electronic technologies than nonelectronic materials on a weekly basis. Many teachers used blackboards or overhead projectors (88 percent) or manipulatives or models (73 percent) to present concepts at least once a week (table 5). Fewer teachers (55 percent) reported using computers, videos, or other electronic technology to present concepts on a weekly basis. These differences may be partly attributable to differences in the cost of these technologies and materials. Blackboards or overhead projectors are nearly

Table 5—Percentage of teachers who used various technologies or materials in class at least once a week during the last semester, by class grade level and subject area: 1994–95

	Teacher used to demonstrate concept			Students used		
Class grade level and subject area	Board or overhead	Computer, video, electronic media	Manipulatives or models	Hands-on materials	School computers for writing	Calculators
Total	87.8	55.4	73.1	78.7	29.3	24.6
Class grade level						
K–3 (Primary)	91.7	66.2	96.1	93.7	37.9	13.8
4–6 (Intermediate)	92.1	62.1	78.4	78.4	40.6	34.4
7–8 (Middle/junior high)	88.2	33.4	54.2	68.1	17.8	19.8
9–12 (High school)	88.9	46.1	52.6	62.5	16.7	26.6
Mixed	75.5	48.8	69.6	79.5	22.8	17.6
Special education	84.8	63.4	78.5	85.8	35.3	33.6
Class subject area						
General elementary	94.4	69.4	92.4	90.7	44.6	25.5
English/language arts	90.9	37.4	39.3	51.8	25.8	4.6
Mathematics	97.3	40.8	65.8	61.8	15.4	75.8
Science	95.6	47.9	78.6	78.6	16.6	35.5
Social studies	94.5	44.9	35.6	43.1	7.7	6.4
Special education	84.8	63.4	78.5	85.8	35.3	33.6
Bilingual/ESL	98.5	62.5	71.5	74.1	25.7	9.0
Vocational education	88.3	59.5	70.3	89.7	27.8	25.5
Other	66.5	38.2	62.3	77.6	11.8	5.5

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

universal in classrooms and manipulatives such as blocks can cost very little. Computers, video players, and televisions, however, are relatively expensive items, and therefore are less readily available. In addition to availability, researchers on the use of technology in education note that many teachers are inadequately trained to use technology effectively in the classroom (Barron and Goldman 1994; Coley, Cradler, and Engel 1997; David 1994; U.S. Congress 1995). As more teachers participate in professional development programs on using education technology in the classroom, regular use of technology may become more common among teachers.

In addition to electronic technologies, curriculum standards in several subject areas recommend that teachers and students use "concrete" or "hands-on" materials, that is, physical objects, in their work together. In mathematics education, the term "manipulatives" refers to concrete materials such as pattern blocks, tiles of various geometric shapes, rulers, and balances that can help children develop mathematical understandings of numbers, patterns, geometry, or measurement (NCTM 1989). Science and social studies standards describe how physical models of scientific phenomena, geographic regions, or even power relations in political systems can help students understand complex systems or concepts (NCSS 1994; NGER 1996; NRC 1996).

Primary teachers' practice is generally consistent with curriculum standards' recommendations to have children work with concrete objects. Nearly all primary teachers used manipulatives to demonstrate a concept, and they were in fact as likely to use manipulatives for this purpose as they were to use the board or overhead (96 percent and 92 percent, respectively). In addition, nearly all primary teachers (94 percent) had students use hands-on materials at least once a week.

Perhaps not surprisingly, the use of manipulatives and hands-on materials decreased as the grade level of the class increased.[8] This trend occurred even within the elementary grades. Intermediate teachers were considerably less likely than primary teachers both to use manipulatives to demonstrate a concept and to have their students use hands-on materials: 78 percent of intermediate teachers used these techniques at least once a week, compared with about 95 percent of primary grade teachers. What may be more unexpected, however, is that teachers in the middle/junior high and high school grades were also less likely than teachers in the elementary grades to use electronic media to demonstrate concepts in the classroom.

The proportions of teachers in the core academic subject areas who used these materials and technologies are, for the most part, consistent with what the standards and traditional practice in their fields would suggest. Three-quarters of mathematics teachers and one-third of science teachers had their students use calculators in class on a weekly basis, and one-quarter of English

[8]As discussed above, these differences may result from differences in the amount of time that teachers spent with the designated class each week.

teachers had students use school computers for writing at least weekly. There was some variation among subject areas, however. Although mathematics, science, and social studies standards recommend that students use hands-on materials, science teachers were more likely to do so on a weekly basis: 79 percent of science teachers had students use hands-on materials weekly, compared with 62 percent of mathematics teachers and 43 percent of social studies teachers.

Classroom and Homework Activities

Reflecting the expansion of education goals to include higher order thinking as well as mastery of basic skills, curriculum standards in all four core academic subject areas emphasize that learning activities should include complex tasks that require higher order thinking. University faculty, government agencies, academic and teacher professional organizations, and business leaders have called for teachers to provide more opportunities for students to become proficient at higher order thinking, including solving complex problems that require analyzing, organizing, and synthesizing information, and communicating effectively both orally and in writing (Marshall and Tucker 1992; Murnane and Levy 1996; NCTM 1989; Secretary's Commission on Achieving Necessary Skills [SCANS] 1991).

Moreover, several reformers advise that more instructional tasks should require students to solve "authentic" problems: problems that relate to the world outside school and for which both the methods of solution and the solutions themselves are uncertain (Cóvington 1992; Lampert 1986; Newman, Wehlage, and Lamborn 1992). Researchers have found that when school-based learning in academic subjects is connected to the real world in which their parents live and work, students are often more motivated to lea n abstract concepts than they are in more traditional lessons (Covington 1992; Newman, Wehlage, and Lamborn 1992). In addition, it is argued that some students come to understand abstract concepts better when they have worked with them in both abstract and applied contexts (Covington 1992; National Academy of Sciences 1994; NCTM 1989; NRC 1996). Curriculum standards in several subject areas recommend that teachers include authentic or real-world problems in the activities they ask students to do (NCSS 1994; NCTE/IRA 1996; NCTM 1989). This section of the report begins by examining the degree to which teachers had their students work on tasks, both in the classroom and at home, that had some of the characteristics of higher order thinking activities and authentic problems.

In addition to discussion of the kinds of tasks that students do, questions arise about how teachers should use the work that students do, particularly their homework assignments. Among the core academic curriculum standards only the NCTM assessment standards address the issue of homework in any detail. However, education research indicates that teachers use student homework assignments in many different ways. Sometimes teachers simply check whether

students completed their assignments. They might do this if, for example, they believed that the primary purpose of homework was to encourage self-discipline and good study habits or if they believed their scarce time was more productively spent in another activity (Tovey 1997).

Some education researchers, however, have argued that when teachers do not at least sometimes assess the quality of the work students do outside school, homework is a far less effective tool for enhancing learning because students are less likely to take it seriously and try their best (Austin 1979; Walberg, Pascal, and Weinstein 1985). If teachers review student homework, it can also facilitate learning by providing teachers with information regarding students' skills and conceptual understandings, information that they may use to plan future instruction (NCTM 1995). In addition, homework can provide another opportunity for teachers to provide students with instructive feedback on their performance (NCTM 1995). Therefore, this section of the report also presents TFS:94–95 data on how teachers used homework assignments.

Higher Order Thinking Activities

The TFS data show that many teachers had their students work on tasks that involved higher order thinking or had at least some of the characteristics of authentic problems. Nearly two-thirds of teachers asked students to explain how what they had learned in class related to the real world on a weekly basis (table 6). About 60 percent of teachers reported that they had students work on problems with several answers or with several methods of solutions in class, and 38 percent reported that in class they had students put things in order and then explain why they were organized that way.

Many argue that increasing the amount of time students spend working with new material and practicing new skills is likely to enhance their mastery of that material (National Education Commission on Time and Learning 1994). Extending the amount of time students spend in school is one way of accomplishing this task, and providing students with learning tasks they can do while not in school is another. Proponents of homework note that it does appear to be positively related to student learning. Analyses of data collected as part of the NAEP, High School and Beyond (HS&B), and the National Education Longitudinal Study (NELS) indicate that students who reported that they often did homework in mathematics scored higher on mathematics assessments than students who did mathematics homework less often (National Science Foundation [NSF] 1996).

Some scholars question, however, whether all homework is equally productive (Perkins 1993; Sternberg 1996). These researchers and educators argue that unless students are actively

Table 6—Percentage of teachers whose students engaged in various higher level tasks in class or as homework at least once a week during the last semester, by class grade level and subject area: 1994–95

Class grade level and subject area	Tasks done in class				Tasks done as homework		
	Linked school and real world	Ordered events/ things and explained order	Did problems with several answers	Did problems with several solution methods	Project or experiment	Problems with no obvious solution	Apply concepts in new context
Total	63.7	38.1	59.1	58.8	22.8	13.2	43.2
Class grade level							
K–3 (Primary)	72.3	56.3	61.8	60.5	19.2	8.8	31.3
4–6 (Intermediate)	69.9	38.9	67.9	67.8	34.8	17.9	52.7
7–8 (Middle/junior high)	64.3	24.9	52.1	57.3	18.2	15.1	45.4
9–12 (High school)	54.2	26.6	53.7	53.5	26.0	15.3	55.2
Mixed	55.7	34.1	58.9	58.5	19.0	13.0	36.3
Special education	64.0	39.0	59.7	57.0	18.5	11.3	37.8
Class subject area							
General elementary	74.4	52.3	67.5	66.6	27.2	13.4	39.6
English/language arts	59.1	30.6	64.0	55.4	13.9	15.0	48.5
Mathematics	48.1	24.0	40.7	71.2	12.0	16.2	59.4
Science	67.3	30.1	52.1	51.9	54.5	21.7	60.1
Social studies	64.7	27.5	50.7	41.2	15.4	10.0	45.7
Special education	64.0	39.0	59.7	57.0	18.5	11.3	37.8
Bilingual/ESL	57.9	61.1	69.0	65.4	9.5	5.9	31.0
Vocational education	58.3	35.2	54.5	52.5	37.3	17.0	47.0
Other	50.9	24.8	52.6	52.1	15.9	9.9	39.6

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

engaged with new material, homework time is ill spent. They further claim that routine exercises from textbooks, workbooks, or worksheets do little to enhance learning, and argue that homework tasks, like classroom activities, should require more higher order thinking and be more authentic.

Compared with the higher level activities that teachers had students do in class, teachers were often less likely to ask students to engage in higher order thinking activities in their homework on a weekly basis. Thirteen percent of teachers reported that weekly homework included problems with no obvious method of solution, compared with 59 percent of teachers who had students do such problems in class (table 6). Teachers also were more likely to assign routine

exercises than more complex or authentic problems as homework. Sixty-five percent of teachers reported that they had students complete routine exercises as homework on a weekly basis (table 4), considerably more than those who assigned as homework projects or experiments (23 percent), problems with no clear solution (13 percent), or tasks that required students to apply concepts in new context (43 percent) (table 6).

Older children's greater knowledge and skill compared with younger children might lead teachers of older children to use higher order thinking tasks more often than teachers of younger children. This expectation, however, was not supported by the TFS:94–95 data. Compared with higher grade teachers, teachers in the lower grades were more likely to ask students to explain how what they learned in class was linked to the real world.[9] Primary teachers were more likely than intermediate teachers to ask students to put things in order and explain why they were organized that way (56 percent compared with 39 percent). Intermediate teachers were more likely than senior high teachers to have students work on problems that had several methods of solution (68 percent compared with 54 percent) and more likely than middle/junior high teachers to have students work on a project, gather data, or do an experiment at home (35 percent compared with 18 percent).[10]

Teachers' use of several specific higher level thinking activities varied with their subject area in expected ways. English teachers were more likely than mathematics teachers to have students work on problems with several answers in class (64 percent versus 41 percent). Science teachers were considerably more likely than English, mathematics, and social studies teachers to have students do an independent project, gather data, or conduct an experiment at home. Two-thirds of science teachers had students explain the connection between what they learned in school and the world outside school, compared with one-half of mathematics teachers. Beyond the core academic subjects, vocational education teachers were also more likely than English, mathematics, and social studies teachers to have students do an independent project, gather data, or conduct an experiment at home.

Teachers' Use of Homework Assignments

In the TFS:94–95, teachers were asked how often they followed up on homework assignments in each of a number of ways, using a five-point scale ranging from "always" to "never." Among these homework-related practices were (1) recording only whether assignments were

[9]As discussed above, these differences may result from differences in the amount of time that teachers spent with the designated class each week.

[10]As discussed above, these differences may result from differences in the amount of time that teachers spent with the designated class each week.

completed; (2) collecting, correcting, and using assignments as a basis for class discussion; and (3) collecting, correcting, and using the assignments for lesson planning.[11] Table 7 presents the percentages of teachers who responded "often" or "always" regarding these practices. Overall, 40 percent of teachers reported that often they only recorded whether assignments were completed, 46 percent reported that often they collected, corrected, and discussed assignments, and 42 percent reported that often they collected, corrected, and used assignments as a basis for lesson planning.

Table 7—Percentage of teachers who often or always used student homework assignments for various purposes during the last semester, by class grade level and subject area: 1994–95

Class grade level and subject area	Only recorded if completed	Collected, corrected, and discussed	Collected, corrected, and used to plan future lessons
Total	39.9	45.8	42.3
Class grade level			
K–3 (Primary)	48.0	36.9	34.2
4–6 (Intermediate)	41.1	57.6	49.4
7–8 (Middle/junior high)	33.5	53.2	49.8
9–12 (High school)	39.5	50.3	45.0
Mixed	31.5	37.6	34.9
Special education	37.8	42.1	43.0
Class subject area			
General elementary	47.2	46.6	42.4
English/language arts	34.5	64.0	49.2
Mathematics	50.9	50.6	51.1
Science	37.7	59.3	49.7
Social studies	36.6	50.4	46.0
Special education	37.8	42.1	43.0
Bilingual/ESL	37.1	25.6	37.6
Vocational education	34.6	34.8	36.5
Other	30.4	33.9	31.6

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

[11]The latter two practices are combinations of items on the survey. See the technical notes for details on variable construction. These categories are not mutually exclusive because teachers could use several of these approaches to follow up on homework assignments.

Homework use varied, however, among teachers of different grade levels and subjects. Teachers in the primary grades were less likely than teachers in higher grades to collect, correct, and use homework as a basis for class discussion or lesson planning. Thirty-seven percent of primary grade teachers reported that they often collected, corrected, and discussed homework, compared to 58 percent of intermediate teachers, 53 percent of middle/junior high teachers, and 50 percent of senior high teachers. Similarly, whereas one-third of primary grade teachers reported that they often collected and corrected homework and used it for lesson planning, 45 to 50 percent of teachers in higher grades did so.

Among the core academic subject areas, mathematics teachers were more likely than English teachers to report that they often only recorded whether their students had completed their homework assignments (51 percent compared with 35 percent). One factor that may contribute to this difference is the relative ease with which many mathematics assignments can be corrected by the students themselves using answers provided in the textbook. English assignments such as essays, on the other hand, more clearly require teacher analysis and feedback.

Assessment of Student Learning

Researchers and education reformers have paid increasing attention not only to how teachers teach their students but also to how teachers assess and evaluate student learning (NCTM 1995; Stiggins and Conklin 1992). As the goals for elementary and secondary education have expanded to include higher order thinking skills and as the school-age population becomes more diverse culturally and linguistically, some argue that assessment tools must expand beyond multiple-choice or short-answer tests in order to measure student progress accurately (Herman, Aschbacher, and Winters 1992; Wiggins 1993). Some advocates of assessment reform believe that knowing how well students can develop a coherent argument and persuade someone of its validity, or use concepts learned in school to solve a problem they might encounter out in the world, requires examination of their writing or extended treatment of a problem (Darling-Hammond and Ancess 1995; Resnick 1987). Others concerned about assessment validity claim that the knowledge and abilities of students from minority cultural or linguistic backgrounds are not well measured by contemporary multiple-choice or short-answer tests or quizzes in English, and that alternative forms of assessment, when well implemented, can give teachers more useful information about what these children know and can do and what kinds of instruction will help them the most (LaCelle-Peterson and Rivera 1994).

Portfolios have been promoted as an assessment strategy that allows teachers to evaluate higher order, complex skills that are not easily assessed with multiple-choice tests and also to provide opportunities for student goal setting and self-evaluation of progress toward meeting the

goals they set (Arter and Spandel 1992; Darling-Hammond 1994). Their flexibility also allows teachers to integrate instruction across subject areas, another common recommendation for instruction (NCSS 1994; NCTE/IRA 1996; NCTM 1989). For example, by using laboratory reports as assessments that are kept in a portfolio, science teachers can observe student progress in communication skills as well as mathematics and science. Although alternative assessments are not without controversy, particularly regarding reliability and validity (Shavelson, Baxter, and Gao 1993; Koretz et al. 1994), many teachers have participated in professional development programs on alternative assessments and portfolios (Henke et al. 1997).

In addition to using them to make decisions about instruction, teachers often use portfolios and other assessments when determining end-of-semester or course grades. Grades are often used as measures of student achievement for such high-stakes decisions as grade-level promotion, graduation, and admission to postsecondary institutions or to programs within institutions. Given their significance for students' lives, it is important to know how teachers determine student grades. This section discusses several aspects of teachers' use of portfolios and the factors they consider when determining student grades.

Portfolio Use

Although teachers, as well as state- and district-level assessment experts, operationalize "portfolio assessment" in widely varying ways, in general, a portfolio is a collection of a student's work chosen to represent the student's progress in acquiring skills or conceptual understandings. Portfolios can be more or less formal, depending on the number and specificity of criteria involved in selecting and assessing the quality of the work that is included. In addition, portfolio assessment can include teacher-student conferences about selecting and assessing the work in the portfolio. This section examines several aspects of portfolio use, beginning with teachers' overall use of portfolios and the subject areas in which teachers used portfolios. The section continues by discussing the different types of work that teachers included in portfolios, and the purposes for which teachers used portfolios.

Overall, 57 percent of teachers reported using portfolios during the semester preceding the survey (table 8). Regardless of the subject area of their designated class, teachers were asked whether they used portfolios to assess student work in the four core academic subjects as well as art, music, home economics, foreign languages, and other subjects. Teachers were more likely to use portfolios to assess student work in English/language arts (40 percent) than in mathematics, social studies, science and other subjects (25 percent or less).

Table 8—Percentage of teachers who used portfolios to assess student learning during the last semester according to content area of assessment, by class grade level and subject area: 1994–95

Class grade level and subject area	Any content area	English/ language arts or reading	Mathematics	Social studies	Science	Other
Total	56.8	40.3	25.1	15.6	15.1	17.3
Class grade level						
K–3 (Primary)	72.2	68.3	48.6	23.2	22.9	28.3
4–6 (Intermediate)	59.6	48.1	26.2	24.9	22.4	11.6
7–8 (Middle/junior high)	53.1	27.6	16.8	8.9	10.5	7.5
9–12 (High school)	41.3	14.7	7.8	6.3	6.5	13.2
Mixed	46.6	23.1	12.4	10.0	8.3	20.9
Special education	62.5	47.9	28.1	17.3	16.8	17.2
Class subject area						
General elementary	70.6	66.0	45.6	28.6	25.5	24.5
English/language arts	74.0	72.2	3.8	4.9	3.0	1.3
Mathematics	47.7	1.9	45.5	0.7	7.7	1.1
Science	42.2	9.5	8.8	2.3	38.3	1.9
Social studies	37.6	5.7	1.9	34.1	1.7	2.0
Special education	62.5	47.9	28.1	17.3	16.8	17.2
Bilingual/ESL	69.1	66.9	20.7	6.4	6.7	13.3
Vocational education	31.9	0.4	1.4	—	0.1	30.7
Other	34.6	10.4	5.6	3.7	3.3	26.2

—Too few cases for a reliable estimate.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

Teachers' use of portfolios was strongly associated with the grade level of their students. About three-quarters of all primary grade teachers and 60 percent of intermediate grade teachers used portfolios to assess skills in at least one content area. In contrast, 41 percent of high school teachers reported using portfolios in at least one subject area. Even within the elementary grades, teachers' use of portfolios declined with the grade level of their students: intermediate teachers were less likely than primary teachers to report using portfolios to assess student work overall and specifically in English/language arts and mathematics.

Some subject matter specialists used portfolios to assess student work in fields other than those of their designated classes. Eight percent of mathematics teachers reported that they assessed student work in science using portfolios. Among science teachers, 9 percent assessed student work in mathematics and 10 percent assessed English/language arts skills in their science

portfolios. Although this is a weak measure of the degree to which teachers are integrating instruction across subject areas, it does indicate that some such integration is happening.

Teachers who use portfolios also use a wide variety of assessment tools, as shown by the kinds of student work they included in their portfolios. Teachers commonly included tests and assessments (62 percent) and worksheets (57 percent), and less commonly included homework assignments (35 percent) in portfolios (table 9). These data indicate that many teachers are combining portfolios with traditional assessment strategies.

Table 9—Percentage of teachers who included various types of student work in student portfolios, by class grade level and subject area: 1994–95

Class grade level and subject area	Work-sheets	Open-ended problems	Explor-atory investi-gations	Long-term projects	Interdisci-plinary problems	Journal entries	Home-work	Self-reflective-writing	Narrative writing	Tests and assess-ments
Total	56.6	40.9	29.9	44.5	22.9	47.4	34.8	51.9	51.3	62.3
Class grade level										
K–3 (Primary)	55.7	42.2	25.3	29.5	19.3	58.1	25.2	57.4	56.2	63.5
4–6 (Intermediate)	56.3	40.8	30.6	52.7	24.2	48.0	35.0	55.7	60.5	66.0
7–8 (Middle/junior high)	56.3	42.6	35.1	58.5	31.1	43.0	38.5	61.5	56.2	62.6
9–12 (High school)	50.7	40.7	33.3	55.3	23.3	32.3	44.9	40.4	40.1	59.0
Mixed	47.8	41.5	30.2	52.2	17.7	47.7	28.6	39.6	39.3	49.4
Special education	65.9	38.4	30.5	41.3	24.9	46.3	40.1	51.3	49.4	65.2
Class subject area										
General elementary	54.2	43.9	29.6	38.5	22.0	56.2	28.2	58.7	60.0	61.5
English/language arts	40.7	41.7	23.5	57.9	18.9	59.0	30.5	76.9	82.6	55.4
Mathematics	65.8	40.9	31.7	39.8	26.9	28.5	54.8	20.3	14.1	80.2
Science	61.5	53.1	58.6	55.8	32.5	30.7	44.1	28.4	24.6	68.2
Social studies	67.9	39.0	39.2	61.3	21.1	31.6	55.7	49.1	36.5	76.1
Special education	65.9	38.4	30.5	41.3	24.9	46.3	40.1	51.3	49.4	65.2
Bilingual/ESL	46.9	31.6	26.5	47.7	—	66.9	28.1	41.4	40.1	45.2
Vocational education	64.5	30.5	19.0	64.3	32.9	11.0	45.9	6.2	12.2	60.6
Other	52.6	32.3	23.6	45.2	19.9	31.3	29.5	37.8	31.4	51.8

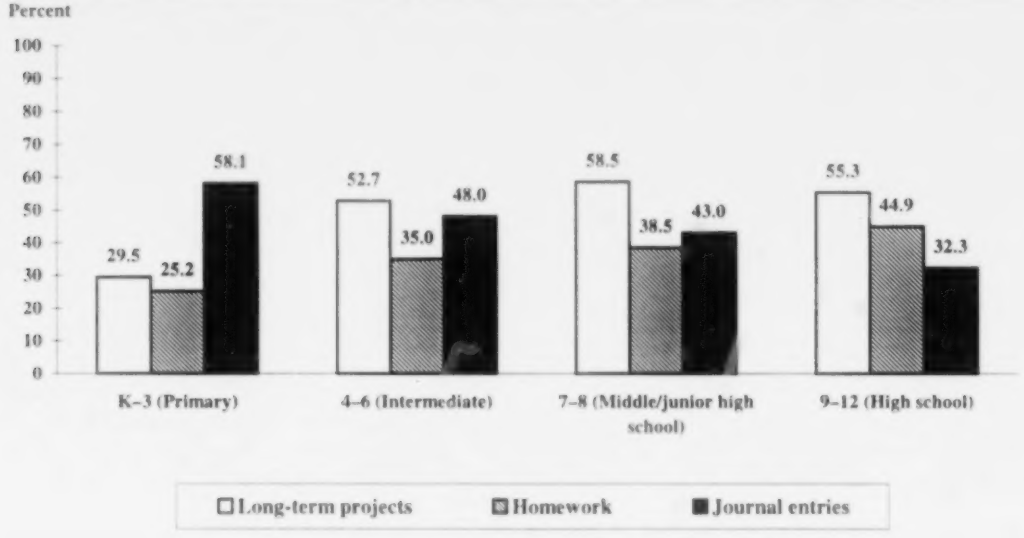
—Too few cases for a reliable estimate.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

The content of portfolios varied with grade level. The percentage of teachers who included journal entries in student portfolios decreased from 58 percent in the primary grades to 32 percent in high school (figure 2). In addition, 40 percent of high school teachers included students' self-reflective writing in portfolios, compared with 56 percent or more of teachers in grades K–8. The opposite pattern is evident for homework, which was included in portfolios by 25 percent of primary grade teachers and 45 percent of high school teachers. Similarly, long-term projects, included in portfolios by 30 percent of primary grade teachers, were included by at least one-half of teachers in all other grade levels.

Figure 2—Percentage of teachers who included various types of student work in student portfolios in the designated class, by class grade level: 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors provided in table B9.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Portfolios can be, and are, used for a wide variety of purposes. They can be used for summative evaluation, for example, to document and make judgments about student performance and their future education experiences, and to communicate with students and parents about their progress. A large majority (91 percent) of teachers who used portfolios reported that they used them to communicate about student progress with parents each semester (table 10). About two-

thirds of teachers used them to make decisions about student placement and nearly one-third used them to make decisions regarding student graduation. High school teachers were more likely than teachers in the lower grades to use portfolios to make graduation-related decisions (43 percent compared with 17 to 28 percent).

Portfolios can also be used as tools for instruction and motivation, encouraging student self-reflection and goal-setting. Most teachers (86 percent) used them to help students reflect on their own progress over the semester, although fewer (38 percent) used them to help students reflect on their work weekly. Furthermore, teachers can use them as opportunities to reflect on their instruction and plan future instruction. Three-quarters of teachers used portfolios to diagnose learning problems at least once a month, and about one-half used them to plan lessons on a weekly basis.

Table 10—Percentage of teachers who used student portfolios for various purposes during the last semester or grading period, by class grade level and subject area: 1994–95

Class grade level and subject area	Reflection on each piece of work weekly	Reflection on overall progress over semester	Communication with parents over semester	Weekly lesson planning	Diagnosing learning problems on monthly basis	Making decisions about student placement	Making decisions about graduation
Total	38.3	86.0	90.9	46.3	71.3	66.0	30.0
Class grade level							
K–3 (Primary)	32.7	78.7	92.3	51.6	75.1	73.2	28.0
4–6 (Intermediate)	47.7	92.5	93.7	45.8	72.3	62.9	26.4
7–8 (Middle/junior high)	36.6	89.2	91.9	33.4	64.7	55.3	17.0
9–12 (High school)	48.5	91.2	86.3	41.5	65.4	61.9	42.6
Mixed	37.7	87.8	93.1	50.1	71.1	64.8	29.8
Special education	32.0	85.0	89.4	47.6	73.0	68.3	29.8
Class subject area							
General elementary	37.8	83.0	93.4	49.6	73.3	70.8	28.5
English/language arts	40.1	92.4	90.6	45.5	72.3	67.5	24.6
Mathematics	46.0	91.1	89.4	38.4	73.9	61.3	37.5
Science	36.7	89.9	95.2	43.1	64.7	58.2	34.7
Social studies	49.4	89.4	87.7	37.1	55.6	56.3	39.8
Special education	32.0	85.0	89.4	47.6	73.0	68.3	29.8
Bilingual/ESL	19.5	96.2	85.8	51.6	88.0	87.1	55.5
Vocational education	50.3	85.0	87.8	35.2	57.3	60.0	37.3
Other	43.1	86.0	85.8	42.5	67.3	51.3	25.6

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95

Components of Student Grades

Perhaps the most common form of feedback that teachers give to their students is letter grades. The importance of grades, to both teachers and students, is evident in the many effects that grades can have. Not only can grades affect the courses in which a student is placed, and ultimately the variety of postsecondary options available to the student, but they also can affect how students are perceived by teachers, parents, and friends, and how students perceive themselves (Covington 1992; Marshall and Weinstein 1984). To the extent that grades are used to measure student achievement, it is important to understand the factors teachers consider when assigning student grades.

Teachers can take many factors into account when they determine student grades (Stiggins and Conklin 1992). While some may rely only on the absolute level of student achievement, others may consider additional factors such as level of effort and degree of growth or improvement shown by their students (Brookhart 1993). Most, however, probably use a mixture of these factors, assigning a higher level of importance to some than to others (Brookhart 1993; Stiggins and Conklin 1992).

In the TFS:94–95, teachers were asked to indicate the importance of various aspects of student performance in assigning grades, including absolute achievement, level of effort, individual improvement, achievement relative to the rest of the class, and portfolio items. Almost all teachers (97 percent) reported that measures of student effort were either very important or extremely important in determining grades (table 11). Eighty-four percent assigned the same level of importance to improvement over time, and 76 percent said that absolute achievement was very important. About one-half (49 percent) of teachers said that portfolio items were very important, and one-quarter said that achievement relative to the rest of the class was very important.

Teachers of different grade levels varied substantially in the levels of importance they assigned to these aspects of student performance. Teachers in the lower grades were more likely than teachers in the upper grades to consider individual improvement to be very or extremely important (figure 3). The same pattern was even more evident for portfolio items: the percentage of teachers considering them very important in computing final grades decreased from 63 percent among primary teachers to 35 percent among high school teachers. The opposite pattern was observed for absolute achievement, for which the percentage ranged from 72 percent among primary teachers to 86 percent among high school teachers.

The components that teachers used to assign student grades also varied with the subject of the designated class. Among the core academic subjects, English teachers were more likely than

Table 11—Percentage of teachers who considered various aspects of student performance very or extremely important in determining student grades or formal progress reports, by class grade level and subject area: 1994–95

Class grade level and subject area	Effort	Individual improvement	Achievement relative to class	Absolute achievement	Portfolio items
Total	96.6	83.9	24.6	76.1	49.6
Class grade level					
K–3 (Primary)	96.0	90.0	25.1	71.6	63.0
4–6 (Intermediate)	97.2	87.3	29.0	80.4	51.5
7–8 (Middle/junior high)	95.3	81.2	23.2	81.1	45.7
9–12 (High school)	97.1	73.9	31.9	86.1	34.8
Mixed	98.1	82.5	23.9	71.1	44.2
Special education	96.4	88.5	13.1	66.0	55.0
Class subject area					
General elementary	96.5	89.3	26.6	77.5	59.0
English/language arts	97.0	84.8	19.2	81.2	63.9
Mathematics	94.9	66.9	32.9	85.3	36.9
Science	94.2	76.7	33.8	88.6	34.8
Social studies	94.0	71.6	26.7	88.7	31.9
Special education	96.4	88.5	13.1	66.0	55.0
Bilingual/ESL	100.0	94.0	32.5	75.2	74.2
Vocational education	98.5	81.4	27.0	78.1	35.9
Other	98.8	81.1	29.4	69.1	35.3

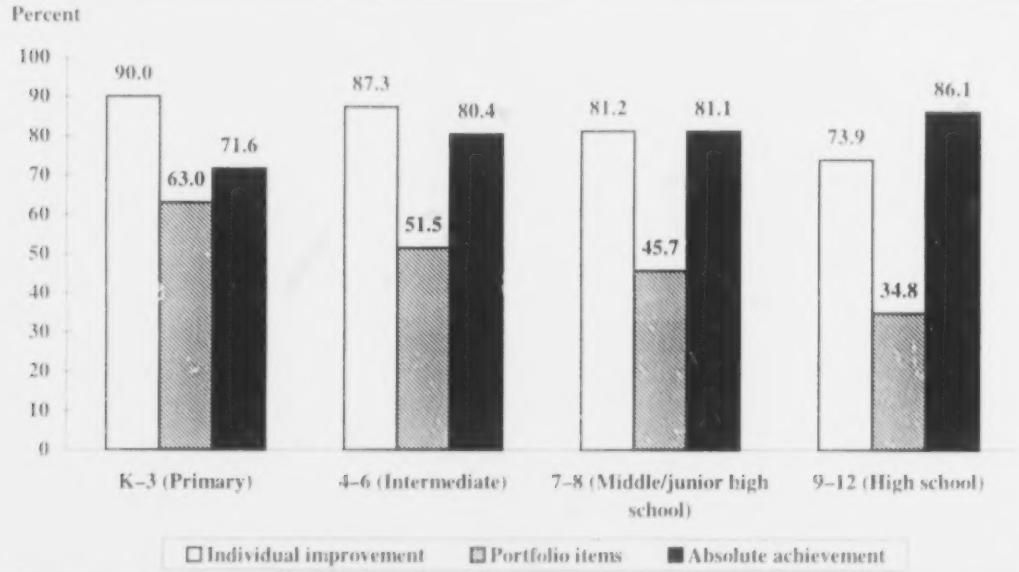
NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

mathematics teachers to consider individual improvement (85 percent versus 67 percent) and portfolio items (64 percent versus 37 percent) very or extremely important in assigning grades (table 11). English teachers were more likely than teachers in each of the other three core academic subject areas to consider portfolio items very or extremely important in determining student grades.

Beyond the core academic subjects, special education and bilingual education teachers were more likely than teachers of mathematics, science, and social studies to value individual improvement and portfolio items highly when determining grades. These findings are consistent with discussions of portfolios as particularly useful tools for assessing students with special needs (LaCelle-Peterson and Rivera 1994). In addition, bilingual education teachers were more likely than general elementary, mathematics, and social studies teachers to consider measures of effort very important in assigning grades.

Figure 3—Percentage of teachers who considered various aspects of student performance to be very or extremely important in determining grades or formal progress reports in their designated class, by class grade level: 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors provided in table B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Recommended Practices

The analyses just discussed indicate the degree to which teachers in 1994–95 used a variety of individual practices. Recommendations for instruction reform, however, encompass more than one or two practices. Rather, they tend to recommend that teachers include a number of strategies in their teaching repertoires. This section begins to assess how many teachers in the core academic subjects use the breadth of practices recommended in the subject area standards. TFS:94–95 instructional practices items that measured practices that were consistent with recommendations either made in the curriculum standards or implied by the examples of reform-consistent instruction in those standards were combined to create a summary variable for each of the four subject areas. The practices that were identified for each subject area and the standards used to identify them are presented in table 12.

Table 12—Instructional practices recommended by national curriculum standards and measured in 1994–95 Teacher Follow-up Survey, by subject area

English/language arts[1]	Mathematics[2]	Science[3]	Social Studies[4]
	Grouping practices and use of groupwork		
Students work on group projects for individual or group grades	Students work on group projects for individual or group grades	Students work on group projects for individual or group grades	Students work on group projects for individual or group grades
Students engage in discussion primarily with other students	Students engage in discussion primarily with other students	Students engage in discussion primarily with other students	Students engage in discussion primarily with other students
Students confer with others about work	Students confer with others about work	Students confer with others about work	Students confer with others about work
	Whole class discusses work done in small groups	Whole class discusses work done in small groups	Whole class discusses work done in small groups
Students evaluate others' work	Students evaluate others' work		
Teacher facilitates discussion	Teacher facilitates discussion	Teacher facilitates discussion	
	Technology and materials		
Students use supplementary printed materials other than textbooks		Students use supplementary printed materials other than textbooks	Students use supplementary printed materials other than textbooks
	Teacher demonstrates concept using manipulatives, models, etc.	Teacher demonstrates concept using manipulatives, models, etc.	Teacher demonstrates concept using manipulatives, models, etc.
Teacher demonstrates concept using electronic media			Teacher demonstrates concept using electronic media
	Students use hands-on materials	Students use hands-on materials	
	Students use calculators	Students use school computers for writing	
			Students put events or things in order and explain why organized that way
	Type of tasks		
Students explain how class relates to real world	Students explain how class relates to real world	Students explain how class relates to real world	Students explain how class relates to real world
Students evaluate and improve their own work	Students evaluate and improve their own work	Students evaluate and improve their own work	Students evaluate and improve their own work
Students solve problems that have several methods of solution	Students solve problems that have several methods of solution	Students solve problems that have several methods of solution	
	Students solve problems with several appropriate answers	Students solve problems with several appropriate answers	Students solve problems with several appropriate answers
		Students work on projects that require at least one week to complete	Students work on projects that require at least one week to complete
Students work on performing arts project			
			Students work individually on projects or presentations

[1]Practices were identified from *Standards for the English Language Arts* published jointly by the International Reading Association and the National Council of Teachers of English.

[2]Practices were identified from *Curriculum and Evaluation Standards for School Mathematics* of the National Council of Teachers of Mathematics.

[3]Practices were identified from *National Science Education Standards* of the National Research Council.

[4]Practices were identified from *National Standards for History*, published by the National Center for History in the Schools; *Expectations of Excellence:Curriculum Standards for Social Studies*, published by the National Council for the Social Studies; and *Geography for Life National Geography Standards*, published by National Geographic Research and Exploration.

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Neither the subject area curriculum standards nor the TFS:94–95 instructional practice items represents an exhaustive list of practices that have been recommended within or across subject areas. The standards documents focus on curriculum rather than instruction and vary in the level of detail of their guidelines and in the degree to which they specify instructional strategies. As noted above, the TFS:94–95 items were designed to provide meaningful information across subject areas and grade levels with a paper-and-pencil survey. Therefore the descriptions of practices in these items are considerably less detailed than could be afforded by a set of items devoted to one subject area. Given these limitations, the summary variables offer rudimentary assessments of the degree to which teachers have adopted the recommendations of subject matter experts and education reformers more generally.

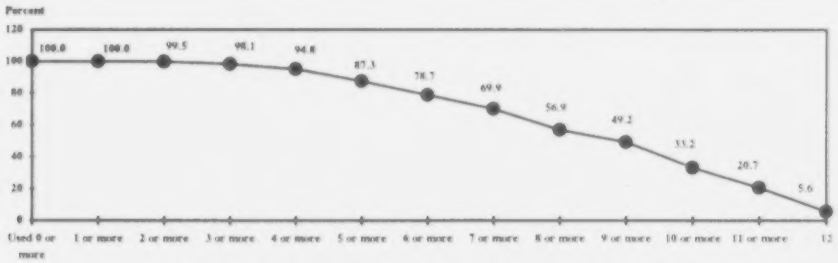
In the four summary variables, teachers who used each practice recommended for their subject area at its defined rate (or more frequently) were counted as using the recommended practice, although the defined rate varied among practices. For example, English teachers were defined as "facilitating a discussion" if they reported doing so at least once a week, but were defined as having students "work on a performing arts project" if they reported that their students did so at least once during the semester. The less frequent rate was chosen for this practice because student productions of plays or skits, common performing arts projects in English classes, generally require a great deal of time to prepare. Details regarding the rates selected for each practice are provided in appendix C.

In each of the four core academic subject areas, between 4 and 6 percent of teachers used all of the recommended practices identified for the subject area (figure 4). Among teachers whose designated classes were in English/language arts and social studies, 70 percent used at least 7 of the practices recommended for their respective subject areas; that is, at least one-half of the 12 or 13 identified recommended practices. Among those whose designated classes were in mathematics and science, about 80 percent used at least 8 of the 13 or 14 practices identified as recommended for their subject areas.

This section has discussed teachers' use of a variety of instructional strategies and the relationships between their use of these practices and the grade levels and subjects they taught. Consistent with previous research, the TFS:94–95 data indicate that instruction varies with grade level and subject area, as would be expected for a number of reasons. Children's intellectual and social maturity and their knowledge and skill levels increase as they grow older, and the standards documents note that appropriate instruction will reflect those differences. Some subjects also facilitate the use of certain strategies—the use of calculators makes more sense in mathematics and science classes than in English classes, for example. Finally, related to both of these

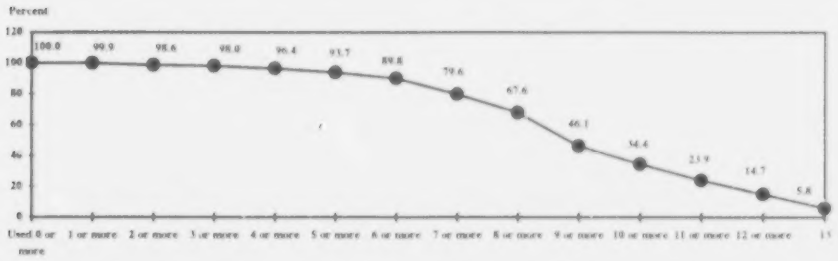
Figure 4—Percentage of teachers who used various numbers of instructional practices recommended by curriculum standards in their subject areas, by subject area of designated class: 1994–95

English/ language arts



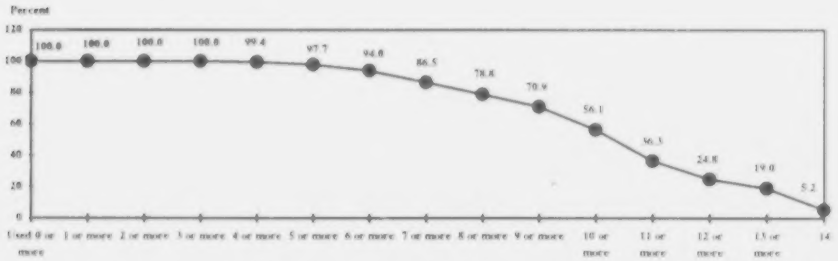
Number of practices recommended by English language arts standards

Mathematics



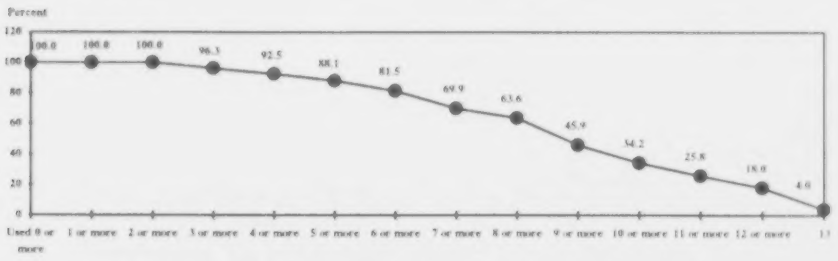
Number of practices recommended by NCTM curriculum, teaching, and assessment standards

Science



Number of practices recommended by science curriculum standards

Social studies



Number of practices recommended by social studies curriculum standards

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors provided in table B13.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95

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factors, schools organize instruction differently for children of different ages in response to their increasing maturity and the increasing specialization needed to provide instruction appropriate to students' increasing skill levels. The amount of time that teachers spend with a given group of students in an average week therefore varies with children's age and limits the frequency with which they can use some strategies.

Thus, as other studies have shown, the TFS:94–95 data indicate that grade level and subject area are associated with systematic differences in teachers' use of a number of practices. The remainder of the report examines whether other variables relating to the students in teachers' designated classes, their schools, and the teachers themselves are also associated with differential use of these practices. Given the considerable variation in practice use by grade level and subject area, it would be most useful to examine the effects of other variables net of grade level and subject area differences. To the degree that the characteristics of teachers' designated classes, schools, and the teachers themselves vary with grade level and subject area, the effects of several variables could be confounded in analyses that do not take grade level and subject area into account. The multivariate analyses that would do so, however, are beyond the scope of this report, and therefore these analyses should be interpreted with caution.

What Class, School, and Teacher Factors Were Associated With Variation in Teacher Practice?

Beyond grade level and subject area, parents, educators, and policymakers are interested in whether and how instruction varies among teachers with different qualifications and among students of different backgrounds for at least two reasons. First, as debate regarding how teachers should teach continues, parents, educators, and policymakers worry that some children are consistently more likely to receive lower quality instruction than others. Recent news reports indicate that that more uncertified teachers are being hired as the need for teachers increases due to enrollment increases and decreasing class size, and that this trend is stronger in inner cities with higher enrollments of poor and minority children (Guthrie 1998). A study of the 1990–91 SASS data found that, compared with schools serving low proportions of low-income students, in schools serving high proportions of low-income students, higher proportions of students were taught by teachers who had not earned even a college minor in the fields they were teaching (Ingersoll and Gruber 1996).

Moreover, the National Commission on Teaching and America's Future (NCTAF 1996; 1997) recently noted that in schools that serve high proportions of low-income or minority children teachers tend to be less experienced and less well-trained than their counterparts in more affluent schools. The NCTAF report went on to claim that because of these differences in their teachers' qualifications, low-income or minority students receive lower quality instruction. Given this assertion, it is important to examine whether teachers of different students or teachers with different levels of experience and training choose different kinds of instructional practices.

Second, some researchers claim that certain instructional strategies are particularly beneficial for children from low-income backgrounds or those with limited English proficiency (Knapp 1995). To the degree that low-income children or children of cultural and linguistic minority backgrounds are better served by some instructional practices than others, therefore, systematic variation in instructional strategies may indicate appropriate, rather than lower quality, instruction.

In order to address questions regarding the instruction provided to different groups of children, by different kinds of teachers, and in different kinds of schools, this section moves from examining instruction by grade level and subject area to studying the relationships between

instruction and characteristics of classes, schools, and teachers. However, although the analyses discussed in this section begin to address questions of education equity, they provide only a piece of the puzzle and many other studies are required to address the complex issues of equity in education. Other important differences in instruction that bear on its quality, such as the quality of teachers' presentations of concepts and of their relationships with their students, are not addressed by the TFS:94–95 data. Similarly, the quality of the facilities and materials with which teachers and students work, the climate of their schools, the degree of parent support, and many other variables interact to affect the overall quality of the instruction students receive.

With these caveats in mind, this section discusses only practices that teachers used at different rates depending on each class, school, or teacher characteristic, and presents these estimates in tables and figures. The tables in appendix A present estimates of the proportion of teachers who used all of the practices discussed in this report by all of the characteristics addressed in this section.

Class and School Characteristics[12]

This section of the report discusses the ways in which teachers' instructional strategy use differs among teachers whose classrooms and school populations varied in a number of ways. After comparing public and private school teachers, the section discusses how teachers' instruction differs with teachers' assessments of student ability, the proportion of students in their schools who were low income, and student proficiency in English.

Sector

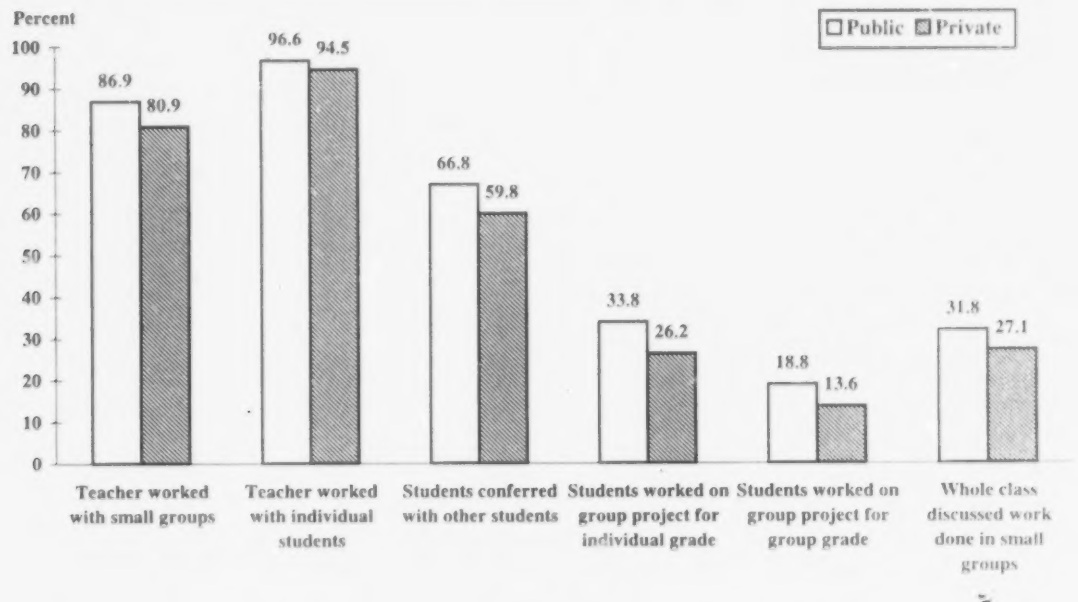
Public and private schools differ from each other in a number of ways, and these differences may be associated with differences in the instruction that public and private school teachers use. For example, the private sector has larger proportions of elementary and combined schools than does the public sector, and as noted above, teachers in lower grades use practices at quite different rates from teachers in higher grades (U.S. Department of Education 1997a). The student populations in the two sectors vary significantly as well: higher income families are more likely than lower income families to send their children to private schools and public schools have higher proportions of minority students and students of limited English proficiency (LEP) (U.S. Department of Education 1997a). Finally, private school teachers are less likely than public school teachers to participate in some kinds of professional development experiences (Choy,

[12]Readers are reminded that the sample of teachers used in these analyses differs slightly from that used in similar analyses published in *America's Teachers: Profile of a Profession, 1993–94*. Therefore, some of the statistics presented here differ slightly from those presented in that report. See the technical notes, appendix C, for more details on differences between the samples.

Chen, and Ross 1998; Henke et al. 1997), and public school teachers' greater participation may lead to differences between their instructional repertoires and those of private school teachers.

Overall, the TFS:94–95 data indicate that public school teachers (88 percent of all) were generally more likely than private school teachers (12 percent) to use recently recommended teaching practices in their classrooms.[13] For example, although the three instructional grouping strategies were used quite commonly among both public and private school teachers, public school teachers were more likely than private school teachers to work with small groups on a weekly basis (87 percent versus 81 percent) (figure 5).

Figure 5—Percentage of teachers who used various grouping strategies at least once a week during the last semester, by sector: 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and sector. Standard errors for estimates in figure 5 are provided in table B2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

[13]Less than 1 percent of teachers worked in Bureau of Indian Affairs or tribal schools.

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Public school teachers also used several specific grouping strategies that facilitate cooperative learning in class more frequently than did private school teachers. Compared with their private school colleagues, public school teachers were more likely to report that their students conferred with other students about their work (67 percent versus 60 percent), worked on group projects for either individual grades or a group grade (34 percent versus 26 percent and 19 percent versus 14 percent, respectively), and discussed with the whole class the work they had done in smaller groups (32 percent versus 27 percent).

In addition to these grouping strategies, public school teachers were more likely than their private school counterparts to implement other recommended practices on a weekly basis. About 80 percent of public school teachers had their students read supplementary printed materials and work with hands-on materials in class, compared with about 70 percent of private school teachers (table 13). On a weekly basis, 57 percent of public school teachers used electronic media and 74 percent used manipulatives or models to demonstrate concepts, compared with 45 and 65 percent, respectively, among private school teachers.

Table 13—Percentage of teachers who used various teaching practices during the last semester, by sector: 1994–95

Teaching practices	Total	Public	Private
Practices used at least once a week			
Students used supplementary printed materials in class	78.2	79.3	69.2
Students used hands-on materials	78.7	79.7	71.2
Teacher used electronic media to demonstrate a concept	55.4	56.7	45.1
Teacher used manipulatives or models to demonstrate a concept	73.1	74.3	64.5
Students put things in order and explained why they were organized that way	38.1	39.0	30.6
Students worked on problems with several answers	59.1	59.7	54.9
Practices used over semester			
Teacher used portfolios in any field	56.8	57.6	50.7
Teacher considered individual improvement very or extremely important in determining grades	83.9	84.4	80.1
Teacher considered portfolios very or extremely important in determining grades	49.6	50.3	44.2

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors for estimates in table 13 are provided in tables B4–B6, B8, and B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

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More public school teachers than private school teachers used some higher order thinking tasks, including having students work on problems with several answers and put things in order and explain why they were organized that way, at least once per week. Fifty-seven percent of public school teachers used portfolios to evaluate student work, compared with 51 percent of private school teachers. Perhaps because they were more likely to use portfolios at all, public school teachers were more likely than private school teachers to consider portfolio items very or extremely important in determining grades.

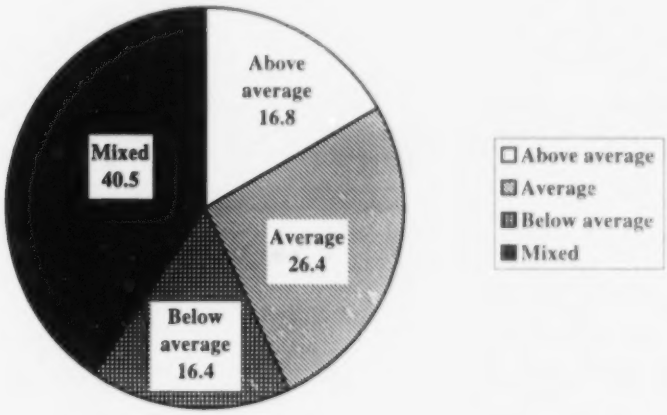
Thus, the TFS:94–95 data indicate that public school teachers are more likely than private school teachers to use a number of recommended teaching practices. These differences may well reflect differences between the sectors in both student and teacher populations. For example, as the section below on students' proficiency in English demonstrates, teachers of bilingual classes and teachers in schools with larger proportions of LEP students were more likely than other teachers to use a number of recommended practices. Thus, although students' achievement test scores in private schools are often higher than those in public schools, such differences in achievement cannot be attributed solely to differences in instructional strategies.

Student Ability

Teachers' use of various teaching practices may depend, at least in part, on the skills and existing knowledge of the students whom they teach, although it is difficult to predict the direction of this relationship. Teachers of higher ability students, for example, may feel less compelled to search for new methods because they think that their students can learn well with traditional methods of teaching. On the other hand, these teachers may be more inclined than teachers of lower ability students to have their students work on tasks that require higher order thinking because they believe these students have the ability to meet these challenges. Teachers of lower ability students may be more inclined to "stick with the basics" or may want to adapt to these students' learning styles and enhance their learning with innovative teaching strategies.

When asked to estimate the proportions of students in their designated classes whose academic ability fell above, at, and below the school average, 17 percent of teachers reported that more than one-half of the students in their designated classes were above the school average in academic ability, 26 percent reported that more than one-half were at the school average, and 16 percent reported that more than one-half were below the school average. The remaining 41 percent of teachers reported that no more than one-half of their students fell in any one of these three categories, and these teachers were classified as having "mixed" classes (figure 6).

Figure 6—Percentage distribution of teachers according to their estimates of the academic ability of students in their designated class relative to the school average: 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors are provided in table B14. Teachers indicated the proportion of students in the designated class whose academic ability was above, at, or below the school average for their age and grade. In this analysis, teachers were defined as having classes of above average, average, or below average ability if they reported that more than 50 percent of their students fell into the respective category. If a majority of students did not fall into any of these categories, teachers were defined as having "mixed" classes. Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Students' abilities, as perceived by their teachers, were associated with the instructional strategies they used in interesting ways. Teachers who taught higher ability students tended to use recommended teaching strategies in the classroom less often than did teachers who taught lower ability students. With homework assignments, however, teachers of higher ability classes tended to be more likely than teachers of lower ability classes to use recommended practices.

Teachers who estimated that most of their students were of below-average ability relative to other students in the school were more likely than teachers who estimated that most of their students were of above-average ability to use a number of recommended practices, including working with small groups, having students read supplementary printed materials in class, using manipulatives or models to demonstrate a concept, and using portfolios to evaluate student work in English and mathematics (table 14). Moreover, teachers who taught higher ability students

Table 14—Percentage of teachers who used various teaching practices in class during the last semester, by teachers' estimates of class ability level relative to the school average: 1994–95

Teaching practices	Total	Teachers' estimates of class ability level relative to school average		
		Below average	Average	Above average
Recommended practices*				
Teacher worked with small groups	86.2	94.6	81.9	85.1
Students read supplementary materials in class	78.2	85.0	76.8	75.4
Teacher used manipulatives or models to demonstrate a concept	73.1	77.0	71.7	63.7
Students used calculators	24.6	33.8	21.6	25.7
Students worked on problems with several methods of solution	58.8	52.1	57.9	66.4
Teacher used portfolios to assess English/language arts	40.3	48.6	42.1	34.4
Teacher used portfolios to assess mathematics	25.1	35.6	25.5	18.2
Traditional practices*				
Students worked on routine exercises in class	67.9	72.6	72.3	60.5
Teacher provided whole group instruction	97.8	94.9	98.2	99.1
Teacher lectured	63.0	53.8	65.4	70.2
Students read textbooks in class	73.7	70.0	74.1	78.1
Factors very or extremely important in determining student grades				
Effort	96.6	96.6	96.3	96.7
Individual improvement	83.9	87.7	84.0	80.4
Achievement relative to the class	24.6	18.7	29.3	30.1
Absolute achievement	76.1	67.7	78.2	83.1

*Teacher reported using these practices at least once a week.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and teachers' estimates of class ability level. Standard errors for estimates in table 14 are provided in tables B2–B6, B8, and B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

were more likely than those who taught lower ability students to use traditional teaching practices in class, such as providing whole group instruction, lecturing students, and having students read textbooks.

There were a couple of exceptions to these trends, however. The higher the ability of most of their students, the more likely teachers were to have them work on problems with several methods of solution in class, a practice recommended in a number of subject areas. In addition,

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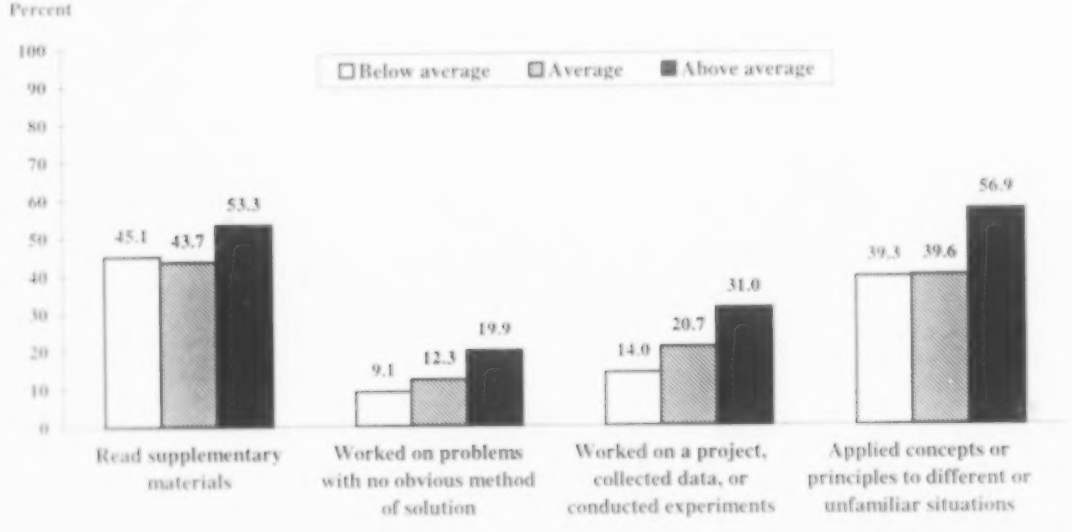
teachers were more likely to have average and below-average students complete routine exercises in class, a traditional practice, than they were to have above-average students do so.

In contrast to their classroom practices, teachers who taught higher ability students were more likely than teachers who taught lower ability students to assign a number of recommended tasks as homework. Overall, as their estimates of the ability level of most of their students in their designated class ros teachers became more likely to have their students read supplementary printed materials at home, do problems that had no obvious method of solution, or do projects that involved data collection or experiments (figure 7). Teachers who reported that more than one-half of their students were of above average ability relative to the school average were more likely than teachers of primarily average or below-average children to have their students do homework tasks in which they applied concepts or principles to different or unfamiliar situations.

Figure 7—Percentage of teachers who assigned various recommended learning activities as homework at least once a week during the last semester, by teachers' estimate of class ability level relative to the school average: 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors are provided in tables B4 and B6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

In evaluating student performance, these teachers also differed in the factors they considered to be very or extremely important. Although all teachers assigned a high level of importance to measures of effort, teachers of higher ability students were more likely than teachers of lower ability students to consider absolute achievement and achievement relative to the class very or extremely important (table 14). On the other hand, teachers of higher ability students were less likely than teachers of lower ability students to consider individual improvement very or extremely important in determining grades.

Poverty

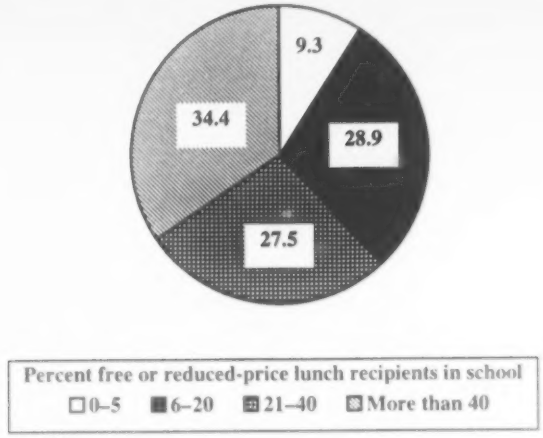
Some educators worry that poor children receive lower quality instruction than affluent children because teachers in schools that serve high proportions of low-income students tend to be less experienced and less well trained (NCTAF 1996). Also, when a school's student body includes a large proportion of low-income children, its teachers face different challenges than their colleagues at more affluent schools face and may adjust their teaching practices to accommodate those challenges (Knapp 1995).

Most public schools (94 percent) participate in the National School Lunch Program, and the proportion of students who receive free or reduced-price lunch through the program is frequently used as an indicator of poverty among a school's student body (Henke et al. 1997; U.S. Department of Education 1997a). Among public school teachers, 9 percent of those whose schools participated in the program worked in schools where less than 6 percent of students received free or reduced-price lunch, 29 percent in schools where 6 to 20 percent of students did so, 28 percent in schools where 21 to 40 percent did so, and 34 percent in schools where more than 40 percent did (figure 8).[14]

Although the poverty of their students was associated with different rates of practice use, those differences were not in one consistent direction: a high incidence of poor students was associated with greater use of both recommended and traditional practices. In general, as the proportion of low-income students in their schools increased, teachers became more likely to facilitate a discussion, use manipulatives or models to demonstrate concepts, and have their students use hands-on materials on a weekly basis (table 15). In addition to these recommended practices, teachers in schools with higher proportions of low-income students were also more likely to have students do traditional routine exercises both in class and as homework.

[14]Data concerning the proportion of students who received free or reduced-price lunch were collected in the 1993–94 SASS School Questionnaire.

Figure 8—Percentage distribution of public school teachers according to proportion of students in their schools who received free or reduced-price lunch: 1993–94 and 1994–95



NOTE: Standard errors are provided in table B15. Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Public school teachers' portfolio use also included contrasting trends. Teachers in schools with higher proportions of low-income students were more likely to use portfolios to assess student work, particularly work in English, mathematics, and science. Overall, as the proportion of low-income students in their schools increased, teachers also were more likely to use portfolios to train students to reflect on pieces of their work, to plan their own lessons on a weekly basis, to diagnose student learning problems at least once a month, and to make decisions regarding student graduation. However, although teachers in schools with higher proportions of low-income students were more likely to use portfolios and more likely to use them for several purposes, they were also more likely to include worksheets, and less likely to include long-term projects, in student portfolios. Thus, among these teachers, portfolios may not increase the use of complex and long-term tasks relative to short-term tasks oriented to mastery of basic skills.

Finally, as the proportion of low-income students in their schools increased, teachers were more likely to consider effort, individual improvement, and portfolio items very or extremely important in determining student grades. Teachers' consideration of achievement, absolute or relative to the rest of the class, did not vary with the proportion of low-income students in their schools, however. These differences may well reflect teachers' desires to be fair to students who have educational disadvantages or to encourage these students to continue trying to do their best in learning tasks (Brookhart 1993).

Table 15—Percentage of teachers who used various teaching practices during the last semester, by percent of students who received free or reduced-price lunch in school: 1993–94 and 1994–95

Teaching practices	Total	Percent students who received free or reduced-price lunch			
		0–5	6–20	21–40	More than 40
Recommended practices*					
Teacher facilitated a discussion	91.5	89.6	89.2	91.7	95.2
Teacher used manipulatives or models to demonstrate a concept	73.1	69.3	72.9	71.2	78.2
Students used hands-on materials	78.7	74.4	77.4	78.4	82.5
Teacher collected, corrected, and used homework to plan lessons	42.3	34.4	42.6	44.3	46.7
Traditional practices*					
Students worked on routine exercises in class	67.9	57.6	66.7	65.0	73.9
Students did routine exercises at home	65.2	53.6	63.2	64.0	70.9
Uses of portfolios					
Teacher used portfolios in any field	56.8	53.1	50.9	59.9	64.2
Teacher used portfolios to assess English/ language arts	40.3	30.4	33.8	42.7	49.3
Teacher used portfolios to assess mathematics	25.1	20.9	17.0	25.0	34.4
Teacher used portfolios to assess science	15.1	14.6	9.7	17.2	19.5
Teacher included worksheets	56.6	50.7	48.4	52.2	65.2
Teacher included long-term projects	44.5	51.8	53.8	42.2	39.9
Students reflect on work weekly	38.3	34.6	34.4	35.3	44.1
Weekly lesson planning	46.3	32.7	44.1	40.9	55.5
Diagnosing student learning problems on monthly basis	71.3	57.4	69.1	66.8	79.8
Graduation decisions	30.0	19.0	29.0	25.0	34.0
Factors very or extremely important in determining student grades					
Effort	96.6	92.4	96.4	98.0	97.5
Individual improvement	83.9	79.2	84.2	85.5	88.2
Portfolios	49.6	43.8	47.5	49.6	55.4

*Teacher reported using these practices at least once a week.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and the proportion of students in the school who received free or reduced-price lunch. Standard errors for estimates in table 15 are provided in tables B3, B5–B6, B8, and B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

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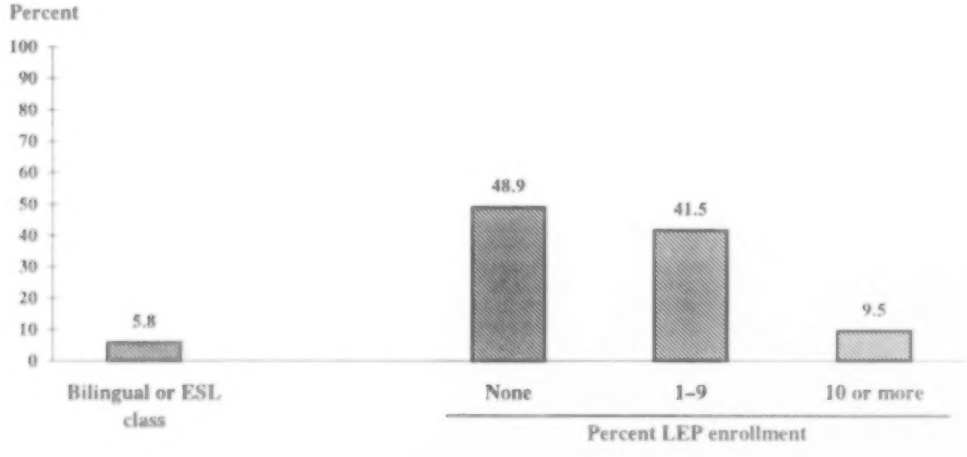
Student Proficiency in English

Teaching children with no or limited proficiency in English requires different strategies from those used when teaching native speakers of English. For example, teachers in bilingual classes might be more likely than those in monolingual classes to work with small groups of students who speak one language while other students work in groups or on their own in other languages. Although one-half of teachers work in schools attended by LEP students, only 6 percent of teachers described their designated classes as bilingual (figure 9). In order to assess whether teachers of bilingual classes or teachers in schools with relatively high proportions of LEP students taught differently from other teachers, practice use was analyzed by whether teachers' classes were bilingual and by the proportion of LEP students in their schools.

Figure 9—Percentage of teachers whose designated classes were bilingual or English as a second language (ESL) and percentage distribution of teachers according to limited English proficient (LEP) enrollment in their schools: 1993–94 and 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors are provided in table B16.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

In general, teachers of linguistic minority children did tend to use recommended practices more often than did other teachers. As LEP enrollment increased, so did the proportions of teachers who worked with small groups, had the whole class discuss the work they had done in

Table 16—Percentage of teachers who used various teaching practices during the last semester, by limited English proficient (LEP) enrollment in their schools: 1993–94 and 1994–95

Teaching practices	Total	LEP enrollment in school		
		0 percent	1–9 percent	10 percent or more
Recommended practices				
Teacher provided small group instruction	86.2	83.6	87.5	90.4
Students discussed with the class the work they had done in small groups	31.2	28.6	31.2	39.3
Students talked primarily with other students	73.5	71.8	75.9	79.1
Students read supplementary printed materials in class	78.2	74.7	80.0	83.8
Teacher used manipulatives or models to demonstrate a concept	73.1	70.1	74.0	83.0
Students used hands-on materials	78.7	76.7	79.6	84.5
Students put things in order and explain why they were organized that way	38.1	36.2	37.0	54.1
Students worked on problems with several answers in class	59.1	56.8	59.9	63.8
Students solved problems with no obvious method of solution at home	13.2	11.4	14.4	21.1
Uses of portfolios				
Teacher used portfolios in any field	56.8	53.7	57.5	70.5
Teacher used portfolios to assess English/language arts	40.3	38.5	38.4	56.3
Teacher used portfolios to assess mathematics	25.1	23.2	22.9	42.0
Teacher used portfolios to assess science	15.1	13.9	14.4	26.1
Teacher used portfolios to assess other fields	17.3	15.2	15.8	29.6
Teacher included open-ended problems in students' portfolios	40.9	36.2	42.5	46.5
Teacher included journal entries in students' portfolios	47.4	44.5	49.2	57.8
Teacher used portfolios to diagnose student learning problems at least once per month	71.3	67.1	73.7	78.0
Factors very or extremely important in determining student grades				
Achievement relative to the class	24.6	23.1	23.4	36.8
Absolute achievement	76.1	74.7	78.4	85.3
Portfolios	49.6	45.6	52.2	62.2

*Teacher reported using these practices at least once a week.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and LEP enrollment. Standard errors for table 16 are provided in tables B2–B6 and B8–B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

smaller groups, and had their students interact primarily with other students in class (table 16). Compared with teachers who worked in schools with lower proportions of LEP students, teachers in schools with higher proportions of such students were more likely to have their students read

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supplementary materials and use hands-on materials in class, and to use manipulatives or models themselves when demonstrating a concept.

In addition to their use of various recommended grouping strategies, interaction patterns, and materials, teachers in schools with higher proportions of LEP students were more likely to use a number of higher level tasks. About one-half of teachers in schools with 10 percent or more LEP students had students put things or events in order and explained why they were organized that way, compared with 37 percent or less of teachers in schools with relatively fewer LEP students. Furthermore, teachers in schools with larger populations of LEP students were more likely to have students work on problems with several answers in class and do problems with no obvious method of solution at home. These teachers were also more likely to collect, correct, and use student homework for planning lessons.

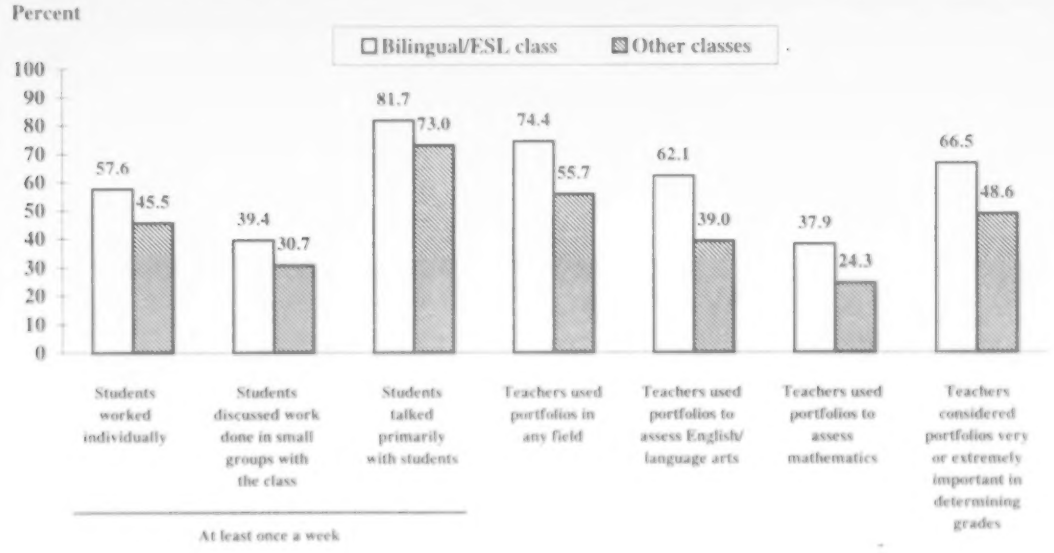
As noted in the discussion of portfolio assessment above, some proponents of portfolio assessment claim that portfolios are particularly well suited to measuring LEP students' content knowledge and understanding of concepts. These students' lower skill levels in oral or written English may prevent them from demonstrating the full extent of their content knowledge in timed paper-and-pencil examinations. Therefore, it is not surprising that teachers who worked in schools with 10 percent or more LEP students were more likely than other teachers to use portfolios to evaluate student work in any subject, and specifically in English, mathematics, science, and other fields (not social studies).

Not only were they more likely to use portfolios, but those who worked in schools with greater proportions of LEP students also differed in what they included in student portfolios and in how they used them. They were more likely than other teachers to include open-ended problems and journal entries in student portfolios, and were also more likely to use portfolios to diagnose learning problems of their students on at least a monthly basis.

Finally, the proportion of LEP students in teachers' schools was also associated with some of the factors they considered when determining student grades or other formal progress reports. As the proportion of LEP students in school rose, teachers were more likely to consider achievement relative to the rest of the class, absolute achievement, and portfolio items very or extremely important in determining grades.

Similar patterns also emerged when comparing teachers of bilingual/ESL classes with other teachers. Teachers who taught bilingual or ESL classes (regardless of subject area) were more likely than teachers who did not teach such classes to have students work individually on projects or presentations, discuss with the whole class the work they had done in smaller groups, and

Figure 10—Percentage of teachers who used various teaching practices during the last semester, by whether their designated class was bilingual or English as a second language (ESL): 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Standard errors are provided in tables B2, B3, and B8.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

discuss their work primarily with other students in class (figure 10). Bilingual/ESL teachers were also more likely than other teachers to report that they used portfolios to evaluate their students' work, particularly to assess skills in English and mathematics, and that they considered portfolios very or extremely important in determining student grades or formal progress reports.

In general, teachers appear to have adopted recommended strategies for instruction in response to the instructional challenges posed by their students. Teachers who perceived their students as having lower skill levels or different linguistic or socioeconomic backgrounds were often more likely to use recently recommended practices in the classroom, although these teachers were less likely to use some recommended practices and more likely to use some traditional practices. The next section of the report examines whether teacher characteristics are also associated with variation in their instruction.

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Teacher Characteristics

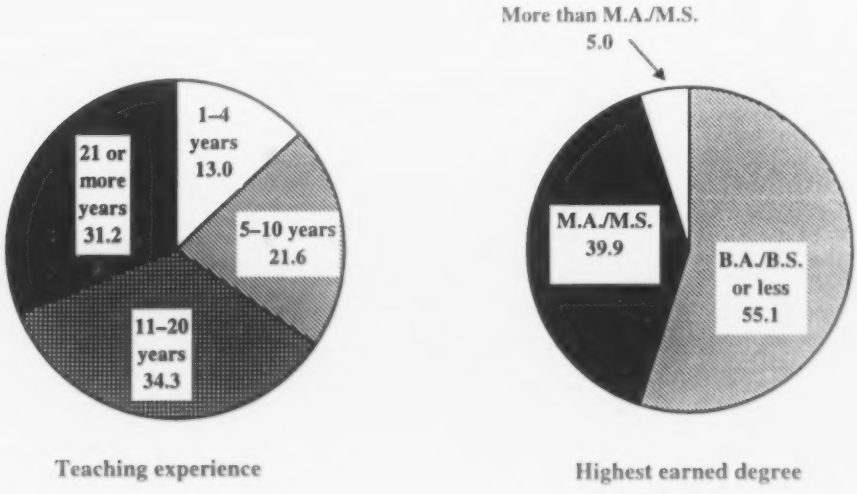
Teachers' qualifications are often the subject of discussion and debate among education policymakers and reformers. If preprofessional and continuing education makes a meaningful difference in the quality of teachers' instruction, one would expect that teachers with more formal education and professional development experience would teach in ways that are different from those of their colleagues with less training. Teachers' experience in the classroom also contributes to their qualifications and can be expected to influence their instruction. This section examines differences in teachers' use of instructional strategies according to their years of teaching experience, their education attainment, and their recent professional development experience.

Experience

Although one would expect that teachers' use of specific teaching practices would be related to their teaching experience, it is not easy to predict the direction of that relationship. Teachers with more experience, for instance, may be less likely to try new practices because they have already developed methods of teaching that work well for them or because their less experienced peers have encountered new teaching strategies in their recently completed professional training. On the other hand, highly experienced teachers may be more likely to try new strategies because they have more confidence in their ability to recover if new methods do not work. As of 1994–95, 13 percent of teachers had 1 to 4 years of experience, 22 percent had 5 to 10 years of experience, 34 percent had 11 to 20 years of experience, and 31 percent had 21 or more years of experience (figure 11).

More experienced teachers were less likely than less experienced teachers to use some recommended practices and more likely to use some traditional practices. For example, 35 percent of teachers with 1 to 4 years of experience had the class discuss work students had done in small groups, compared with 32 percent of teachers with 5 to 20 years of experience and 28 percent of teachers with more than 20 years of experience (table 17). In addition, teachers with more experience were less likely to have students explain the connection between what they learned in school and the real world and to work on problems with several answers in class. Teachers with more than 20 years of experience were less likely than teachers with fewer years of experience to use portfolios to assess student learning in mathematics. Conversely, teachers with more years of experience were more likely than their less experienced counterparts to report that they had students read textbooks at home, a traditional practice.

Figure 11—Percentage distributions of teachers according to teaching experience and highest earned degree: 1993–94 and 1994–95



NOTE: Standard errors provided in table B17. Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

There was an exception to these trends, however. More experienced teachers were more likely than less experienced teachers to use electronic media to demonstrate a concept on a weekly basis. In addition, among teachers who used portfolios, more experienced teachers were more likely than less experienced teachers to use them to plan lessons and to train students to reflect on their work weekly, although less likely to use them to make graduation decisions.

Education Attainment

The effects of greater formal education on teachers' choices of instructional strategies are as difficult to predict as the effects of teaching experience. Teachers with a Ph.D. or professional degree tend to be older than teachers with no more than a bachelor's degree (Henke et al. 1997), and therefore, might be less willing to try newly recommended teaching methods. On the other hand, formal education may affect teachers' qualifications more through their mastery of the subject matter they teach than through their instructional strategy choice. As of 1994–95, 55 percent of teachers had earned no more than a bachelor's degree, 40 percent no more than a master's degree, and 5 percent had earned a degree or credential beyond the master's degree (figure 11).

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Table 17—Percentage of teachers who used various teaching practices during the last semester, by teaching experience: 1993–94 and 1994–95

Teaching practices	Total	Teaching experience			
		1–4 years	5–10 years	11–20 years	21 years or more
Recommended practices*					
Students discussed with the class work they had done in small groups	31.2	34.7	32.1	32.1	28.1
Teacher used electronic media to demonstrate a concept	55.4	48.2	52.1	58.9	56.8
Students linked what they learned in class to the real world	63.7	66.2	65.2	63.6	61.7
Students worked on problems with several answers in class	59.1	61.1	62.3	59.6	55.6
Traditional practices*					
Students read textbooks at home	62.9	61.4	60.4	60.2	68.3
Uses of portfolios					
Teacher used portfolios to assess mathematics	25.1	27.0	28.8	26.5	20.2
Students reflected on work weekly	38.3	32.7	34.5	39.5	41.9
Weekly lesson planning	46.3	41.5	45.4	47.5	47.6
Graduation decisions	29.7	37.2	29.4	27.0	29.9

*Teacher reported using these practices at least once a week.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and teachers' experience. Standard errors for estimates in table 17 are provided in tables B2, B4, and B6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Teachers with more advanced degrees were more likely to use several practices, many of them recommended strategies. The higher teachers' highest earned degree the more likely they were to use a number of recommended teaching practices, including having students work on group projects for individual grades, engage in discussion primarily with other students in class, read supplementary materials in class and as homework, use calculators in class, work on problems with several answers or with several methods of solution in class, and apply concepts to unfamiliar situations in homework assignments (table 18). However, teachers with degrees higher than a master's degree were also more likely than other teachers to assign students textbook reading as homework, a traditional practice.

In addition to these trends, teachers with degrees beyond a master's degree were more likely only to record whether students had completed homework assignments as well as to collect

Table 18—Percentage of teachers who used various teaching practices during the last semester, by teachers' highest earned degree: 1993–94 and 1994–95

Teaching practices	Total	B.A./B.S. or less	M.A./M.S.	Higher than M.A./M.S.
Recommended practices*				
Students worked on a group project for an individual grade	32.9	29.9	36.5	38.1
Students engaged in discussion primarily with other students	73.5	73.7	71.7	85.7
Students read supplementary printed materials in class	78.2	78.3	76.4	90.7
Students read supplementary materials as homework	47.8	46.3	47.0	72.0
Students used calculators in class	24.6	22.0	27.2	33.4
Students worked on problems with several answers in class	59.1	57.6	59.8	70.1
Students worked on problems with several methods of solution in class	58.8	56.6	60.9	65.5
Students applied concepts to new situation at home	43.2	41.8	43.6	55.2
Traditional practices*				
Students read textbooks at home	62.9	62.1	62.2	77.3
Teacher uses of homework (often or always)				
Only recorded if completed	39.9	39.0	39.2	55.7
Collected, corrected, and discussed	45.8	44.2	46.5	57.9
Collected, corrected, and planned lessons	42.3	41.8	41.4	54.2
Uses of portfolios				
Teacher used portfolios in any field	56.8	55.2	58.1	63.8
Teacher used portfolios to assess English/language arts	40.3	38.7	41.2	52.5
Teacher included worksheets in student portfolios	56.6	56.8	54.2	71.4
Teacher included long-term projects in student portfolios	44.5	42.0	47.1	50.0
Teacher included narrative writing in student portfolios	51.3	48.8	53.4	59.9

*Teacher reported using these practices at least once a week.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data on practice use and teachers' highest earned degree. Standard errors for estimates in table 18 are provided in tables B2–B6, B8, and B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

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and correct them and either discuss them or use them for future lesson planning. Teachers with higher degrees were more likely than teachers with lower education attainment to use portfolios to assess student learning in any field and particularly in English. As education attainment rose, teachers were more likely to include long-term projects in student portfolios, and teachers with degrees beyond a master's degree were more likely than others to include worksheets in student portfolios.

Professional Development

Teachers' participation in professional development was consistently associated with their teaching practice in expected ways. The 1993–94 SASS Teacher Questionnaire asked teachers whether they had attended a professional development program on each of five topics since the end of the 1992–93 school year. In general, teachers who had participated in professional development during this time period, that is, about a year before completing the TFS:94–95, were more likely than those who had not to use recommended teaching practices.

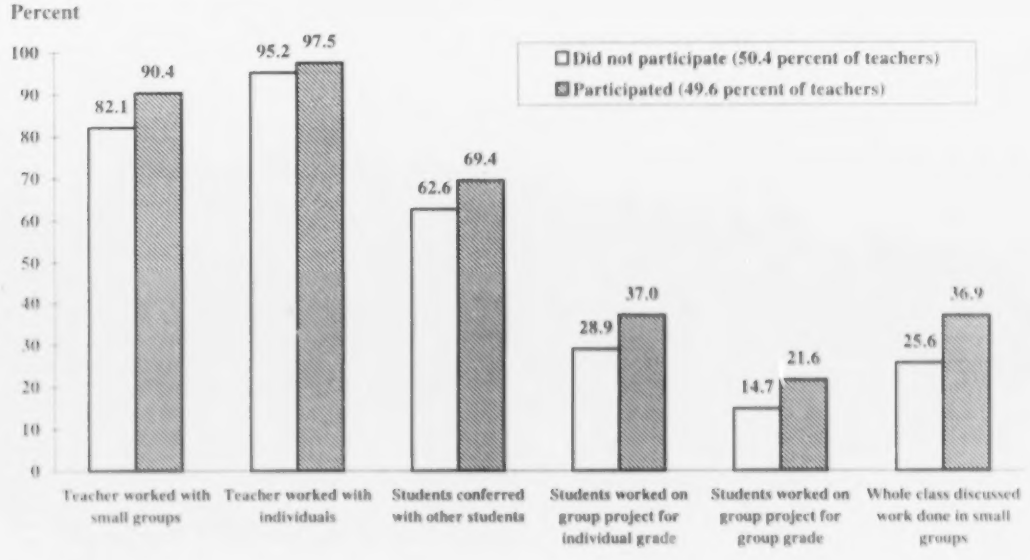
Specifically, teachers' participation in professional development on cooperative learning in the classroom was associated with teachers' use of small-group instruction, individualized instruction, and several other specific groupwork strategies (figure 12). These strategies included having students confer with other students about their work, work on a group project for individual or group grades, and discuss with the whole class the work they had done in smaller groups.

Teachers' participation in professional development was also linked with their use of various teacher-student interaction patterns. Teachers who attended professional development programs on teaching methods in their subject area were more likely than those who did not to have students engage in discussion primarily with the teacher, lead a question-and-answer session, and have students respond orally to open-ended questions or questions that tested recall (figure 13).

The use of strategies that encourage student-student interaction was also associated with teachers' recent participation in professional development on teaching methods in their subject area. These practices included facilitating a discussion, students discussing work primarily with other students in class, and students leading whole group discussions.

Teachers' participation in professional development on classroom uses of educational technology was associated with their use of technology in class. Compared with teachers who had not participated in such professional development, teachers who had participated were more likely to use computers, video equipment, or other electronic technologies to demonstrate a concept in class and to have their students use calculators or computers for writing (figure 14).

Figure 12—Percentage of teachers who used various groupwork strategies at least once a week during the last semester, by teachers' participation in professional development program on cooperative learning between spring 1993 and completing the 1993–94 questionnaire: 1993–94 and 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and participation in professional development on cooperative learning. Standard errors for estimates in figure 12 are provided in table B2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Professional development was also associated with whether and how teachers used portfolios. Teachers who had attended a professional development program on student assessment were more likely than those who had not to use portfolios to assess student work in any field and specifically in the core academic subject areas (figure 15). In addition, teachers who had participated in such professional development were more likely than others to include seven types of student work, such as tests and journal entries, into student portfolios (table 19). Professional development in assessment was also associated with greater utilization of portfolios for five purposes, including diagnosing learning problems and having students reflect on their progress. Finally, participation in professional development on assessment was associated with teachers' placing a high value on portfolios and individual improvement in giving grades to their students.

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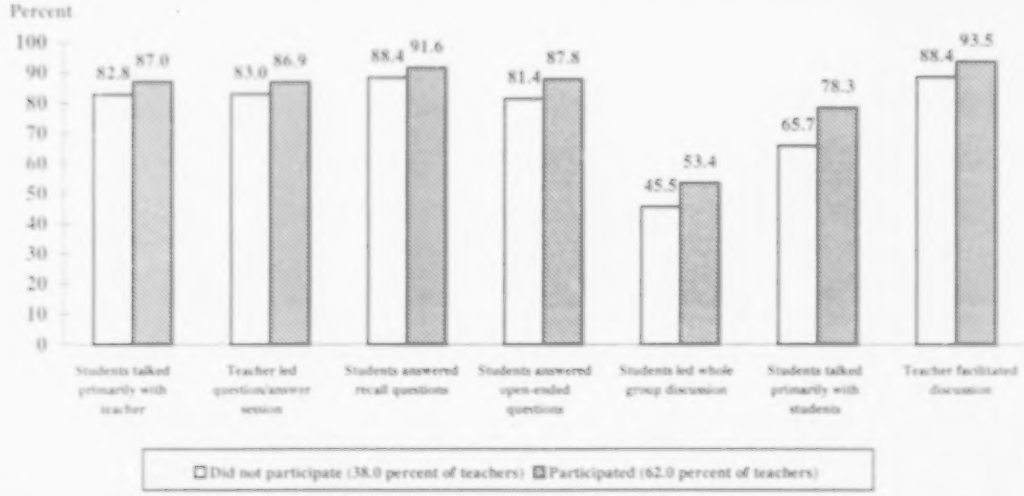
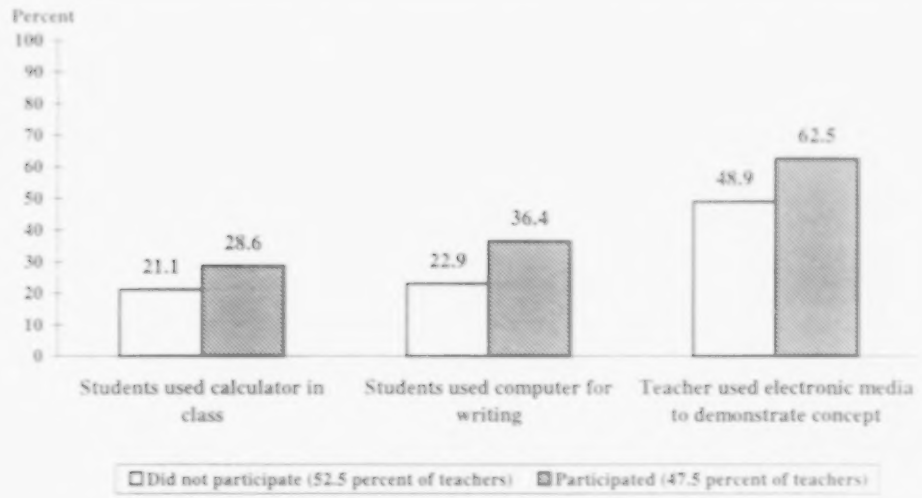
Figure 13—Percentage of teachers who used various kinds of interaction patterns at least once a week during the last semester, by teachers' participation in professional development program on teaching methods in their subject areas between spring 1993 and completing the 1993–94 questionnaire: 1993–94 and 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and participation in professional development on teaching methods in their subject areas. Standard errors for estimates in figure 13 are provided in table B3.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Figure 14—Percentage of teachers who used various types of technology in class at least once a week during the last semester, by teachers' participation in professional development program on uses of educational technology in the classroom between spring 1993 and completing the 1993–94 questionnaire: 1993–94 and 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and participation in professional development on uses of educational technology. Standard errors for estimates in figure 14 are provided in table B5.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey, 1994–95.

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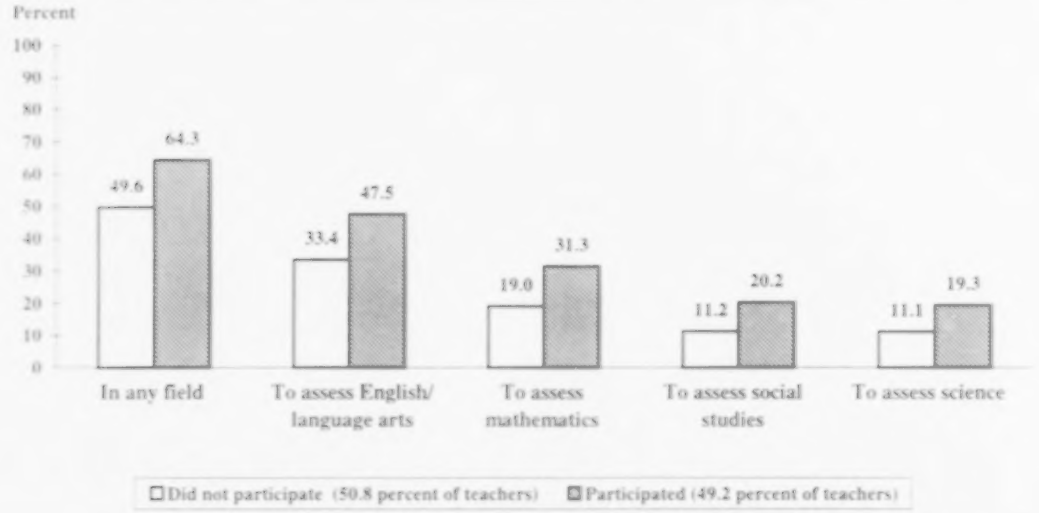
Figure 15—Percentage of teachers who used portfolios to assess student work in various subject areas during the last semester, by teachers' participation in professional development program on student assessment between spring 1993 and completing the 1993–94 questionnaire: 1993–94 and 1994–95



NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data regarding practice use and participation in professional development on student assessment. Standard errors for estimates in figure 15 are provided in table B8.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table 19—Percentage of teachers who used various assessment-related practices during the last semester by participation in professional development program on assessment between spring 1993 and completing the 1993–94 questionnaire: 1993–94 and 1994–95

Teaching practices	Total	Did not participate*	Participated*
Type of work included in portfolio			
Open-ended problems	40.9	33.9	46.5
Long-term projects	44.5	38.4	49.4
Interdisciplinary problems	22.9	19.1	26.0
Journal entries	47.4	42.0	51.7
Self-reflective writing	51.9	44.4	58.0
Narrative writing	51.3	46.4	55.2
Tests and assessments	62.3	58.9	64.9
Uses of portfolios			
Students reflected on overall progress over semester	86.0	81.6	89.5
Communicated with parents over semester	90.9	88.6	92.7
Weekly lesson planning	46.3	42.9	49.0
Diagnosed student learning problems on monthly basis	71.3	67.4	74.4
Placement decisions	68.8	62.2	69.6
Factors very or extremely important in determining student grades			
Individual improvement	83.9	82.1	85.9
Portfolio items	49.6	42.9	56.6

*Forty-one percent of teachers participated in a professional development program on assessment between spring 1993 and completing the 1993–94 SASS teacher questionnaire.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. See tables A2–A11 for further data on practice use and participation in professional development or assessment. Standard errors for estimates in table 19 are provided in tables B9–B11.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey, 1994–95.

Conclusion

The report began by noting recent interest among the public and among policymakers in the kinds of instruction that occur in the nation's classrooms. National standards panels have recommended not only curricular changes but also additions to the instructional activities used to teach those curricula. Teachers' professional organizations and education agencies at all levels of government are investing time and fiscal resources in teachers' professional development in order to improve the quality of instruction. Researchers and educators recommend teaching strategies that seem to be particularly effective with low-income and language minority children.

Overall, the TFS:94–95 data indicate that teachers in the United States use a wide variety of instructional strategies on a weekly basis, including both strategies that have been recommended by reformers and traditional instructional techniques. For example, each of three grouping practices—whole group, small group, and individualized instruction—was used by most teachers (86 percent or more) at least once a week. Most teachers also reported using interaction strategies that involved the teacher talking to students, the teacher talking with students, and students talking with each other. About three-quarters of teachers used manipulatives or models to demonstrate a concept and about 80 percent had students use hands on materials in the classroom. Textbook reading and routine exercises are common activities in class and as homework, and higher-order activities are relatively common in class and less so as homework. About two-fifths of teachers reported that they often collected and corrected homework and used it as the basis for class discussion (45 percent) or lesson planning (42 percent), about as many as reported they often only recorded whether students had completed their homework (40 percent). Nearly 60 percent of teachers reported that they used portfolios to assess student learning. Within the four core academic subjects—English, mathematics, science, and social studies—most teachers used at least one-half of the practices recommended in their subject area.

Consistent with previous research, the TFS:94–95 data indicate that their students' grade level and the subject area of their classes are related to the strategies for instruction that teachers choose. Differences between general elementary teachers and subject specialists are likely to be, at least in part, artifacts of the data collection because general elementary teachers reported practice use over the course of a day rather than only one class period. Nevertheless, because some differences were observed among subject specialists and within the elementary grades, it seems

clear that teachers' instructional choices are at least in part responses to characteristics of their students.

This conclusion is further supported by findings connecting other characteristics of teachers' students and the instructional strategies they choose. The lower teachers' perceptions of their students' academic ability, the more likely teachers were both to use a number of recommended activities in the classroom and to assign routine tasks as homework. Although relatively few differences were associated with the proportion of low-income students enrolled in a school, when such differences were observed they tended to indicate that teachers in schools with more low-income students were more likely than teachers in other schools to use recommended practices. Similarly, the more students with limited proficiency in English the more likely their teachers were to use recommended instructional strategies.

The three teacher characteristics that were examined—teachers' years of teaching experience, highest earned degree, and recent participation in professional development programs—were also associated with differential strategy use. Compared with less experienced teachers, more experienced teachers were less likely to use a number of recommended practices and more likely to use at least one traditional practice. Similarly, teachers with higher education attainment were more likely than those with less to use several recommended practices and one traditional practice on a weekly basis. Finally, teachers who had recently participated in professional development programs were more likely than others to use a number of recommended practices.

The TFS:94–95 offers a unique perspective on instruction in elementary and secondary school, in that it provides the first nationally representative data on instruction across subject areas. When these items are next fielded in a national survey, researchers will be able to examine whether teaching has changed in the 1990s as more states and localities adopt curriculum standards; as education agencies, private organizations, and teachers themselves invest in their continuing professional education; as more and more classrooms and schools have access to technology; and as the size and demographics of the school-aged population change.

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Appendix A—Detailed Tables

Table A1—Percentage distribution of teachers according to subject area of designated class, by sector: 1994–95

Sector*	General elementary	English/ language arts	Math-ematics	Science	Social studies	Special education	Bilingual/ ESL	Vocational education	Other
Total	31.8	9.3	6.4	5.9	5.4	19.6	0.9	4.8	15.7
Public	30.5	9.2	6.2	6.0	5.4	21.3	1.0	5.4	15.0
Private	40.6	10.1	8.2	5.8	6.0	7.2	0.2	0.8	21.1

*Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class. Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

Table A2—Percentage of teachers who used various grouping patterns at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Teacher activities			Student activities				
	Provided whole group instruction	Worked with small groups	Worked with individual students	Worked individually on projects	Conferred with other students	Group project, individual grade	Group project, group grade	Whole class discussed group-work
Total	97.8	86.2	96.3	46.2	66.0	32.9	18.1	31.2
Class or school characteristics								
Sector[1]								
Public	97.9	86.9	96.6	46.4	66.8	33.8	18.8	31.8
Private	97.3	80.9	94.5	44.7	59.8	26.2	13.6	27.1
Private school affiliation[2]								
Catholic	97.5	78.6	93.3	43.9	56.7	29.4	15.3	30.9
Other religious	97.2	78.3	94.5	36.7	58.1	18.1	9.1	18.1
Nonsectarian	97.2	90.0	96.5	59.1	67.6	32.4	18.3	30.4
Bilingual or ESL class								
Yes	98.5	89.3	97.2	57.6	65.9	35.1	16.1	39.4
No	97.8	86.0	96.3	45.5	66.0	32.8	18.2	30.7
LEP enrollment in school[2]								
0 percent	97.2	83.6	97.2	45.2	63.1	28.5	16.6	28.6
1–9 percent	98.7	87.5	95.5	46.4	68.3	37.2	17.3	31.2
10 percent or more	97.9	90.4	94.4	53.2	64.5	32.7	18.4	39.3
Free/reduced-price lunch recipients in school[2]								
5 percent or less	97.6	87.9	97.1	41.2	65.7	32.3	19.7	31.3
6–20 percent	98.0	85.9	94.8	47.5	66.6	39.1	18.0	31.3
21–40 percent	97.8	82.7	95.8	43.6	63.2	29.5	15.5	26.2
More than 40 percent	98.0	90.3	98.4	50.6	68.1	31.5	18.5	36.2
Class ability level								
Above school average	99.1	85.1	94.6	47.0	66.9	33.2	18.7	37.2
At school average	98.2	81.9	96.6	43.2	65.4	30.4	17.0	30.5
Below school average	94.9	94.6	98.7	42.9	64.0	31.0	15.6	25.8
Mixed	99.6	86.2	96.5	47.6	70.0	35.4	19.1	32.4
Teacher characteristics								
Teaching experience[3]								
1–4 years	98.1	84.5	96.9	44.3	67.6	34.9	18.9	34.7
5–10 years	98.0	87.4	96.7	46.2	69.4	30.7	17.8	32.1
11–20 years	97.2	88.0	96.6	47.9	67.0	31.8	16.9	32.1
21 years or more	98.2	84.1	95.5	45.0	61.8	34.9	19.4	28.1

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Table A2—Percentage of teachers who used various grouping patterns at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Teacher activities			Student activities				
	Provided whole group instruction	Worked with small groups	Worked with individual students	Worked individually on projects	Conferred with other students	Group project, individual grade	Group project, group grade	Whole class discussed group-work
Highest earned degree[3]								
BA/BS or less	97.1	85.8	96.6	46.6	67.7	29.9	16.2	30.0
MA/MS	98.6	86.5	95.7	45.3	63.8	36.5	20.7	32.6
More than MA/MS	99.3	88.9	99.1	48.2	64.7	38.1	19.3	33.8
Professional development on assessment[3]								
Yes	98.0	90.4	97.5	48.3	71.8	35.2	19.8	38.7
No	97.6	82.2	95.2	44.1	60.4	30.7	16.5	24.0
Professional development on content[3]								
Yes	98.1	90.4	96.7	53.5	70.3	39.5	21.9	38.3
No	97.7	84.6	96.2*	43.3	64.3	30.4	16.7	28.5
Professional development on cooperative learning[3]								
Yes	98.3	90.4	97.5	46.7	69.4	37.0	21.6	36.9
No	97.4	82.1	95.2	45.6	62.6	28.9	14.7	25.6
Professional development on education technology[3]								
Yes	98.2	88.2	97.3	48.6	71.1	37.3	21.9	35.7
No	97.5	84.4	95.4	44.0	61.3	28.9	14.7	27.2
Professional development on methods[3]								
Yes	98.5	89.6	97.3	48.5	69.8	34.8	19.6	36.1
No	96.7	80.7	94.7	42.3	59.8	29.9	15.7	23.3

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A3—Percentage of teachers who used various means of delivering information or instruction to their students at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Strategies involving teacher talk		Strategies involving teacher-student talk				Strategies involving student-student talk		
	Teacher lectured students	Teacher presentations	Students talked primarily with teacher	Teacher led question–answer session	Students answered recall questions	Students answered open-ended questions	Students led whole group discussion	Students talked primarily with students	Teacher facilitated discussion
Total	63.0	75.8	85.4	85.4	90.4	85.4	50.4	73.5	91.5
Class or school characteristics									
Sector[1]									
Public	62.1	75.7	85.3	85.4	90.5	85.5	50.9	73.9	91.6
Private	70.0	76.5	86.2	84.9	89.1	84.5	47.5	70.6	90.8
Private school affiliation[2]									
Catholic	75.3	74.4	81.7	84.8	87.7	84.6	51.2	67.0	87.8
Other religious	70.0	75.3	89.1	86.0	92.3	84.9	42.0	68.5	93.9
Nonsectarian	58.1	84.5	88.7	83.0	87.9	83.7	48.3	80.2	91.6
Bilingual or ESL class									
Yes	58.4	78.4	87.7	83.0	88.2	85.1	49.7	81.7	93.8
No	63.3	75.7	85.3	85.5	90.5	85.4	50.5	73.0	91.4
LEP enrollment in school[2]									
0 percent	65.4	74.1	85.2	83.2	91.0	85.1	49.9	71.8	91.2
1–9 percent	63.0	79.2	87.2	87.8	90.2	86.9	49.3	75.9	93.4
10 percent or more	55.8	79.1	84.8	81.2	90.0	86.1	50.1	79.1	88.4
Free/reduced-price lunch recipients in school[2]									
5 percent or less	55.6	79.5	87.6	83.8	89.2	91.5	53.4	82.4	89.6
6–20 percent	64.0	76.6	85.5	83.8	91.3	85.9	47.0	74.1	89.2
21–40 percent	62.4	73.6	83.8	84.7	90.3	83.3	43.5	69.9	91.7
More than 40 percent	63.0	78.4	87.8	88.5	91.1	87.0	58.5	76.6	95.2
Class ability level									
Above school average	70.2	74.3	89.6	86.9	91.0	87.6	57.4	76.9	93.4
At school average	65.4	81.0	84.5	85.9	89.7	84.2	50.1	72.1	92.1
Below school average	53.8	71.5	87.5	83.5	91.6	84.5	54.4	73.1	92.1
Mixed	67.6	78.2	86.6	89.7	92.9	88.2	49.5	74.9	92.8
Teacher characteristics									
Teaching experience[3]									
1–4 years	66.4	73.6	84.7	84.3	90.2	85.9	54.0	74.4	92.3
5–10 years	60.9	77.2	89.2	86.6	89.7	87.4	54.9	78.1	93.1
11–20 years	60.4	78.3	83.1	86.1	91.0	85.4	45.1	73.1	92.5
21 years or more	65.8	73.1	85.6	84.3	90.2	83.8	51.7	70.5	89.1

Table A3—Percentage of teachers who used various means of delivering information or instruction to their students at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Strategies involving teacher talk		Strategies involving teacher-student talk				Strategies involving student-student talk		
	Teacher lectured students	Teacher presentations	Students talked primarily with teacher	Teacher led question–answer session	Students answered recall questions	Students answered open-ended questions	Students led whole group discussion	Students talked primarily with students	Teacher facilitated discussion
Highest earned degree[3]									
BA/BS or less	63.3	77.2	85.7	86.0	91.6	84.8	51.4	73.7	91.8
MA/MS	61.9	75.1	84.9	84.2	88.9	85.3	48.1	71.7	90.5
More than MA/MS	67.9	66.4	85.6	88.0	88.8	91.8	58.1	85.7	97.0
Professional development on assessment[3]									
Yes	63.7	75.5	87.4	88.0	92.4	87.3	55.2	78.4	94.3
No	62.3	76.2	83.5	82.9	88.5	83.5	45.8	68.8	88.9
Professional development on content[3]									
Yes	63.1	74.2	86.2	87.2	90.8	89.7	55.9	77.1	93.6
No	62.9	76.5	85.1	84.7	90.2	83.7	48.3	72.1	90.8
Professional development on cooperative learning[3]									
Yes	66.4	77.2	87.6	88.0	91.7	87.9	57.6	78.1	93.7
No	59.6	74.5	83.3	82.8	89.1	82.8	43.4	69.0	89.4
Professional development on education technology[3]									
Yes	63.6	75.7	86.2	88.7	91.4	87.5	52.6	78.3	92.6
No	62.4	76.0	84.7	82.4	89.4	83.4	48.5	69.2	90.6
Professional development on methods[3]									
Yes	62.0	75.8	87.0	86.9	91.6	87.8	53.4	78.3	93.5
No	64.6	75.9	82.8	83.0	88.4	81.4	45.5	65.7	88.4

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

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Table A4—Percentage of teachers whose students used various materials in class or in homework assignments at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Used in class			Used in homework		
	Textbooks	Supplementary printed materials	Routine exercises	Read textbooks	Read supplementary materials	Routine exercises
Total	73.7	78.2	67.9	62.9	47.8	65.2
Class or school characteristics						
Sector[1]						
Public	72.7	79.3	67.6	62.1	48.1	64.6
Private	80.8	69.2	70.5	68.5	45.5	70.3
Private school affiliation[2]						
Catholic	84.4	68.5	68.3	71.8	47.1	73.8
Other religious	83.2	66.6	76.7	70.4	40.6	70.8
Nonsectarian	71.9	73.6	63.6	56.7	48.6	61.7
Bilingual or ESL class						
Yes	70.5	83.6	71.9	58.0	47.0	65.5
No	73.9	77.8	67.7	63.2	47.9	65.1
LEP enrollment in school[2]						
0 percent	76.2	74.7	69.5	65.6	47.9	67.3
1–9 percent	72.5	80.0	65.4	61.3	44.6	62.5
10 percent or more	74.8	83.8	73.0	64.7	61.0	71.6
Free/reduced-price lunch recipients in school[2]						
5 percent or less	72.2	79.1	57.6	58.6	48.6	53.6
6–20 percent	73.7	79.1	66.7	64.2	45.6	63.2
21–40 percent	69.6	76.4	65.0	59.8	42.6	64.0
More than 40 percent	77.5	82.1	73.9	65.9	54.3	70.9
Class ability level						
Above school average	78.1	75.4	60.5	67.8	53.3	62.6
At school average	74.1	76.8	72.3	61.0	43.7	65.2
Below school average	70.0	85.0	72.6	59.2	45.1	68.4
Mixed	82.1	81.3	73.0	69.6	54.1	70.8
Teacher characteristics						
Teaching experience[3]						
1–4 years	74.5	77.7	67.6	61.4	46.8	66.8
5–10 years	69.9	77.6	66.0	60.4	46.3	66.0
11–20 years	71.7	79.9	70.0	60.2	49.0	63.8
21 years or more	78.2	76.8	67.1	68.3	48.1	65.4

Table A4—Percentage of teachers whose students used various materials in class or in homework assignments at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Used in class			Used in homework		
	Textbooks	Supplementary printed materials	Routine exercises	Read textbooks	Read supplementary materials	Routine exercises
Highest earned degree[3]						
BA/BS or less	74.4	78.3	69.6	62.1	46.3	66.6
MA/MS	72.4	76.4	65.6	62.2	47.0	61.8
More than MA/MS	76.4	90.7	67.6	77.3	72.0	75.9
Professional development on assessment[3]						
Yes	75.7	82.8	71.2	65.1	53.3	66.4
No	71.8	73.7	64.8	60.8	42.6	63.9
Professional development on content[3]						
Yes	73.0	84.0	66.4	64.3	56.6	63.2
No	74.0	75.9	68.5	62.4	44.5	65.9
Professional development on cooperative learning[3]						
Yes	78.3	79.9	71.1	67.0	51.9	67.0
No	69.2	76.5	64.8	58.9	43.8	63.4
Professional development on education technology[3]						
Yes	74.1	80.6	68.4	65.6	52.2	65.2
No	73.4	76.0	67.5	60.5	43.9	65.1
Professional development on methods[3]						
Yes	74.0	82.5	70.2	63.0	52.2	65.4
No	73.3	71.2	64.2	62.7	40.7	64.8

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[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A5—Percentage of teachers who used various technologies or materials at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Teacher used to demonstrate concept			Students used		
	Board or overhead	Computer, video, electronic media	Manipulatives or models	Hands-on materials	School computers for writing	Calculators
Total	87.8	55.4	73.1	78.7	29.3	24.6
Class or school characteristics						
Sector[1]						
Public	87.8	56.7	74.3	79.7	29.5	24.8
Private	88.1	45.1	64.5	71.2	27.9	23.5
Private school affiliation[2]						
Catholic	88.0	51.9	67.0	72.2	29.6	26.9
Other religious	91.8	35.7	57.3	64.7	22.5	18.8
Nonsectarian	83.3	47.0	71.8	79.0	32.5	24.0
Bilingual or ESL class						
Yes	83.6	58.0	78.6	83.7	28.4	16.9
No	88.1	55.2	72.8	78.4	29.4	25.1
LEP enrollment in school[2]						
0 percent	86.6	53.3	70.1	76.7	28.1	25.4
1–9 percent	88.6	57.6	74.0	79.6	32.1	25.1
10 percent or more	87.5	58.2	83.0	84.5	26.0	20.6
Free/reduced-price lunch recipients in school[2]						
5 percent or less	83.2	51.6	69.3	74.4	31.3	24.2
6–20 percent	89.4	60.2	72.9	77.4	28.7	29.1
21–40 percent	86.8	53.9	71.2	78.4	29.2	26.4
More than 40 percent	87.8	58.5	78.2	82.5	30.6	20.4
Class ability level						
Above school average	92.2	55.2	63.7	71.6	31.2	25.7
At school average	87.3	56.7	71.7	79.8	24.4	21.6
Below school average	89.0	57.7	77.0	74.6	32.4	33.8
Mixed	92.6	55.9	73.6	78.3	31.1	24.9
Teacher characteristics						
Teaching experience[3]						
1–4 years	90.2	48.2	72.8	75.6	28.6	22.3
5–10 years	88.6	52.1	74.1	79.9	32.6	24.6
11–20 years	85.8	58.9	75.4	79.9	30.7	25.1
21 years or more	88.5	56.8	70.1	77.9	26.0	25.2

Table A5—Percentage of teachers who used various technologies or materials at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Teacher used to demonstrate concept			Students used		
	Board or overhead	Computer, video, electronic media	Manipu-latives or models	Hands-on materials	School computers for writing	Calculators
Highest earned degree[3]						
BA/BS or less	87.2	54.2	74.9	79.9	29.5	22.0
MA/MS	88.6	56.1	70.1	76.6	29.2	27.2
More than MA/MS	88.5	61.9	77.9	82.8	28.6	33.4
Professional development on assessment[3]						
Yes	90.0	61.0	76.9	80.6	34.4	27.4
No	85.7	49.9	69.5	76.9	24.5	22.0
Professional development on content[3]						
Yes	88.3	62.3	78.3	82.1	34.9	26.0
No	87.6	52.7	71.1	77.4	27.2	24.1
Professional development on cooperative learning[3]						
Yes	89.8	60.1	75.8	79.4	31.8	29.1
No	85.8	50.7	70.5	78.0	26.9	20.2
Professional development on education technology[3]						
Yes	91.0	62.5	74.3	79.4	36.4	28.6
No	84.9	48.9	72.1	78.0	22.9	21.1
Professional development on methods[3]						
Yes	90.1	61.2	77.1	81.2	32.8	24.4
No	84.1	45.8	66.7	75.0	23.3	24.5

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[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A6—Percentage of teachers whose students engaged in various higher level tasks in class or as homework at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Tasks done in class				Tasks done as homework		
	Linked school and real world	Ordered events/ things and explained order	Did problems with several answers	Did problems with several solution methods	Project or experiment	Problems with no obvious solution	Apply concepts in new context
Total	63.7	38.1	59.1	58.8	22.8	13.2	43.2
Class or school characteristics							
Sector[1]							
Public	63.8	39.0	59.7	59.1	22.9	13.1	42.7
Private	62.0	30.6	54.9	56.6	22.0	13.3	46.6
Private school affiliation[2]							
Catholic	59.0	33.0	52.4	54.4	24.5	14.5	48.2
Other religious	66.9	24.5	54.1	52.1	16.4	10.3	44.9
Nonsectarian	59.5	35.2	61.0	67.3	25.6	15.3	46.2
Bilingual or ESL class							
Yes	62.5	44.3	66.7	64.6	19.7	11.7	39.9
No	63.7	37.7	58.6	58.4	23.0	13.3	43.4
LEP enrollment in school[2]							
0 percent	63.2	36.2	56.8	57.1	22.6	11.4	42.1
1–9 percent	64.4	37.0	59.9	57.5	21.9	14.4	44.9
10 percent or more	67.8	54.1	63.8	66.5	22.5	21.1	43.8
Free/reduced-price lunch recipients in school[2]							
5 percent or less	61.0	36.2	66.4	59.3	21.0	8.4	40.8
6–20 percent	68.1	37.6	61.5	61.7	25.6	14.3	44.1
21–40 percent	56.9	29.0	57.1	54.6	18.2	12.9	40.4
More than 40 percent	69.6	49.3	59.1	59.1	22.8	14.9	44.5
Class ability level							
Above school average	65.7	40.0	62.2	66.4	31.0	19.9	56.9
At school average	64.4	38.8	57.1	57.9	20.7	12.3	39.6
Below school average	62.0	39.6	55.3	52.1	14.0	9.1	39.3
Mixed	66.6	37.4	63.1	62.6	26.4	14.6	45.8
Teacher characteristics							
Teaching experience[3]							
1–4 years	66.2	36.9	61.1	60.3	21.5	14.1	44.5
5–10 years	65.2	37.4	62.3	59.8	21.5	12.5	43.3
11–20 years	63.6	40.2	59.6	60.2	24.0	13.9	40.9
21 years or more	61.7	36.8	55.6	55.9	23.0	12.5	45.0

Table A6—Percentage of teachers whose students engaged in various higher level tasks in class or as homework at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Tasks done in class				Tasks done as homework		
	Linked school and real world	Ordered events/ things and explained order	Did problems with several answers	Did problems with several solution methods	Project or experiment	Problems with no obvious solution	Apply concepts in new context
Highest earned degree[4]							
BA/BS or less	64.7	37.3	57.6	56.6	22.2	10.3	41.8
MA/MS	61.9	38.4	59.8	60.9	22.8	17.1	43.6
More than MA/MS	66.7	45.4	70.1	65.5	29.8	13.8	55.2
Professional development on assessment[4]							
Yes	67.2	43.1	63.5	63.6	25.2	15.5	45.6
No	60.2	33.3	54.9	54.1	20.5	11.0	40.8
Professional development on content[4]							
Yes	70.6	45.4	67.3	65.8	29.4	16.7	48.2
No	61.0	35.3	56.0	56.0	20.3	11.8	41.2
Professional development on cooperative learning[4]							
Yes	67.3	42.8	63.5	63.0	24.3	15.5	47.7
No	60.0	33.4	54.7	54.5	21.4	10.9	38.7
Professional development on education technology[4]							
Yes	66.2	40.1	63.0	62.0	26.6	16.2	48.8
No	61.4	36.3	55.6	55.9	19.3	10.5	38.1
Professional development on methods[4]							
Yes	67.2	42.4	64.5	63.4	24.9	15.2	44.2
No	57.8	31.1	50.4	51.1	19.3	9.9	41.6

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[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[4]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A7—Percentage of teachers who often or always used student homework assignments for various purposes during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Only recorded if completed	Collected, corrected, and discussed	Collected, corrected, and used to plan future lessons
Total	39.9	45.8	42.3
Class or school characteristics			
Sector[1]			
Public	39.1	45.9	42.7
Private	45.3	45.2	39.6
Private school affiliation[2]			
Catholic	49.1	46.3	40.8
Other religious	40.9	43.4	36.8
Nonsectarian	45.9	46.4	41.6
Bilingual or ESL class			
Yes	45.2	54.4	49.9
No	39.6	45.3	41.8
LEP enrollment in school[2]			
0 percent	40.8	45.9	40.7
1–9 percent	37.6	46.6	44.5
10 percent or more	46.9	48.6	47.3
Free/reduced-price lunch recipients in school[2]			
5 percent or less	40.3	38.4	34.4
6–20 percent	36.5	49.2	42.6
21–40 percent	37.7	42.0	44.3
More than 40 percent	43.0	51.7	46.7
Class ability level			
Above school average	40.2	52.7	47.6
At school average	42.0	41.7	43.9
Below school average	40.3	46.9	44.7
Mixed	39.8	50.0	42.9
Teacher characteristics			
Teaching experience[3]			
1–4 years	40.2	46.7	42.4
5–10 years	38.0	46.3	41.2
11–20 years	39.5	41.9	40.8
21 years or more	41.6	49.3	44.6

Table A7—Percentage of teachers who often or always used student homework assignments for various purposes during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Only recorded if completed	Collected, corrected, and discussed	Collected, corrected, and used to plan future lessons
Highest earned degree[3]			
BA/BS or less	39.0	44.2	41.8
MA/MS	39.2	46.5	41.4
More than MA/MS	55.7	57.9	54.2
Professional development on assessment[3]			
Yes	43.1	50.7	45.5
No	36.9	41.0	39.1
Professional development on content[3]			
Yes	43.1	50.6	44.1
No	38.7	43.9	41.6
Professional development on cooperative learning[3]			
Yes	43.4	50.8	45.1
No	36.5	40.9	39.6
Professional development on education technology[3]			
Yes	42.4	50.4	43.7
No	37.6	41.6	41.0
Professional development on methods[3]			
Yes	43.1	47.3	42.3
No	34.8	43.4	42.3

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[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A8—Percentage of teachers who used portfolios to assess student learning during the last semester according to content area of assessment, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Any content area	English/ language arts or reading	Mathematics	Social studies	Science	Other
Total	56.8	40.3	25.1	15.6	15.1	17.3
Class or school characteristics						
Sector[1]						
Public	57.6	40.9	25.4	15.6	15.2	17.6
Private	50.7	35.1	21.7	15.1	15.0	15.3
Private school affiliation[2]						
Catholic	52.6	37.4	19.7	13.0	14.6	13.8
Other religious	47.0	33.0	21.3	14.4	13.3	14.8
Nonsectarian	51.1	30.6	23.9	18.4	17.5	15.8
Bilingual or ESL class						
Yes	74.4	62.1	37.9	19.5	20.1	26.1
No	55.7	39.0	24.3	15.4	14.8	16.8
LEP enrollment in school[2]						
0 percent	53.7	38.5	23.2	14.2	13.9	15.2
1–9 percent	57.5	38.4	22.9	15.4	14.4	15.8
10 percent or more	70.5	56.3	42.0	25.4	26.1	29.6
Free/reduced-price lunch recipients in school[2]						
5 percent or less	53.1	30.4	20.9	17.9	14.6	21.1
6–20 percent	50.9	33.8	17.0	15.2	9.7	14.9
21–40 percent	59.9	42.7	25.0	14.4	17.2	17.6
More than 40 percent	64.2	49.3	34.4	17.8	19.5	18.3
Class ability level						
Above school average	57.2	34.4	18.2	13.5	15.1	15.3
At school average	56.1	42.1	25.5	16.0	15.8	19.6
Below school average	63.0	48.6	35.6	17.4	16.8	12.2
Mixed	59.9	43.6	25.5	17.9	16.4	17.6
Teacher characteristics						
Teaching experience[3]						
1–4 years	59.2	41.6	27.0	15.8	14.7	19.2
5–10 years	52.2	42.4	28.8	16.5	16.8	16.4
11–20 years	61.1	41.3	26.5	16.2	16.0	18.8
21 years or more	54.3	37.4	20.2	14.3	13.2	15.5
Highest earned degree[3]						
BA/BS or less	55.2	38.7	26.1	16.1	15.4	19.0
MA/MS	58.1	41.2	23.9	14.6	14.2	14.7
More than MA/MS	63.8	52.5	22.6	18.5	20.6	19.9

Table A8—Percentage of teachers who used portfolios to assess student learning during the last semester according to content area of assessment, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Any content area	English/ language arts or reading	Mathematics	Social studies	Science	Other
Professional development on assessment[3]						
Yes	64.3	47.5	31.3	20.2	19.3	19.2
No	49.6	33.4	19.0	11.2	11.1	15.5
Professional development on content[3]						
Yes	64.3	47.9	31.3	18.4	18.4	22.2
No	53.9	37.4	22.7	14.5	13.9	15.4
Professional development on cooperative learning[3]						
Yes	61.5	44.5	29.8	18.8	18.2	18.1
No	52.2	36.3	20.3	12.5	12.1	16.6
Professional development on education technology[3]						
Yes	62.3	44.4	29.5	17.8	18.2	18.5
No	51.8	36.7	21.0	13.7	12.3	16.3
Professional development on methods[3]						
Yes	61.5	45.8	29.4	18.0	17.3	19.0
No	49.3	31.5	18.1	11.8	11.7	14.6

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A9—Percentage of teachers who included various types of student work in student portfolios, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Work-sheets	Open-ended problems	Explor-atory investi-gations	Long-term projects	Interdisci-plinary problems	Journal entries	Home-work	Self-reflective writing	Narrative writing	Tests and assess-ments
Total	56.6	40.9	29.9	44.5	22.9	47.4	34.8	51.9	51.3	62.3
Class or school characteristics										
Sector[1]										
Public	56.4	41.8	30.2	44.4	23.2	48.6	34.1	52.4	51.8	62.0
Private	58.4	33.9	27.4	47.1	20.2	36.8	40.9	48.2	49.0	64.3
Private school affiliation[2]										
Catholic	56.4	33.6	21.6	45	12.2	37.2	39.0	47.2	50.5	62.7
Other religious	61.5	26.8	28.5	46.0	21.8	34.4	42.7	46.0	46.6	69.6
Nonsectarian	55.4	43.2	34.4	48.3	29.5	35.0	39.8	51.2	47.7	56.6
Bilingual or ESL class										
Yes	55.7	34.7	34.5	39.5	24.4	55.4	36.2	46.4	45.5	63.3
No	56.6	41.4	29.5	44.9	22.8	46.7	34.7	52.4	51.8	62.2
LEP enrollment in school[2]										
0 percent	55.3	36.2	28.4	40.0	19.9	44.5	37.7	50.8	50.5	62.5
1–9 percent	53.9	42.5	33.3	51.7	27.5	49.2	31.7	54.0	55.1	62.6
10 percent or more	69.3	46.5	29.0	39.9	21.0	57.8	38.9	50.6	48.1	64.4
Free/reduced-price lunch recipients in school[2]										
5 percent or less	50.7	35.9	32.0	51.8	29.4	45.8	29.7	54.3	56.2	69.9
6–20 percent	48.4	46.5	33.3	53.8	26.5	52.1	34.6	53.2	53.2	54.7
21–40 percent	52.2	38.3	31.2	42.2	20.2	46.0	30.3	50.0	53.4	60.5
More than 40 percent	65.2	40.4	29.2	39.9	22.8	51.0	40.3	53.8	52.9	68.9
Class ability level										
Above school average	54.2	43.6	35.7	52.7	22.8	44.1	37.0	51.5	51.2	66.7
At school average	52.9	40.0	27.5	42.4	23.7	49.4	31.3	50.7	48.7	58.8
Below school average	74.2	46.9	29.6	38.8	23.7	48.7	35.8	48.0	53.8	72.8
Mixed	51.4	42.7	30.0	47.5	23.5	49.8	33.6	56.7	57.2	60.9
Teacher characteristics										
Teaching experience[3]										
1–4 years	56.1	38.9	26.8	42.8	21.3	49.7	34.1	53.3	50.8	59.4
5–10 years	56.0	42.6	33.6	40.2	25.8	52.1	37.7	56.8	54.2	65.3
11–20 years	55.1	45.6	31.7	45.4	24.3	47.4	35.7	49.8	47.5	64.4
21 years or more	58.9	35.0	26.7	47.1	20.1	43.3	32.0	50.8	54.3	58.8
Highest earned degree[3]										
BA/BS or less	56.8	39.6	30.4	42.0	23.0	46.9	35.2	52.2	48.8	62.0
MA/MS	54.2	42.3	29.3	47.1	23.3	47.7	34.0	52.0	53.4	62.9
More than MA/MS	71.4	43.0	29.2	50.0	20.2	50.2	35.8	48.8	59.9	59.9

Table A9—Percentage of teachers who included various types of student work in student portfolios, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Work-sheets	Open-ended problems	Explor-atory investi-gations	Long-term projects	Interdisci-plinary problems	Journal entries	Home-work	Self-reflective writing	Narrative writing	Tests and assess-ments
Professional development on assessment[3]										
Yes	55.3	46.5	31.7	49.4	26.0	51.7	34.0	58.0	55.2	64.9
No	58.1	33.9	27.7	38.4	19.1	42.0	35.7	44.4	46.4	58.9
Professional development on content[3]										
Yes	54.3	46.4	30.9	47.6	22.8	51.4	32.7	53.6	52.9	61.7
No	57.6	38.4	29.5	43.1	23.0	45.5	35.7	51.2	50.6	62.5
Professional development on cooperative learning[3]										
Yes	60.9	44.6	31.9	45.8	25.9	50.2	38.0	55.3	52.9	65.2
No	51.5	36.6	27.5	43.1	19.5	44.1	31.1	48.0	49.5	58.9
Professional development on education technology[3]										
Yes	56.2	44.8	33.0	46.8	25.3	49.8	36.6	51.4	50.8	64.3
No	57.0	36.6	26.5	42.0	20.4	44.7	32.8	52.6	51.8	60.1
Professional development on methods[3]										
Yes	55.3	43.6	28.2	44.0	22.6	49.5	33.6	54.1	53.2	63.4
No	59.1	35.5	33.3	45.6	23.6	43.0	37.2	47.5	47.4	59.9

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A10—Percentage of teachers who used student portfolios for various purposes during the last semester or grading period, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Reflection on each piece of work weekly	Reflection on overall progress over semester	Communication with parents over semester	Weekly lesson planning	Diagnosing learning problems on monthly basis	Making decisions about student placement	Making decisions about graduation
Total	38.3	86.0	90.9	46.3	71.3	66.3	29.7
Class or school characteristics							
Sector[1]							
Public	38.1	86.1	90.6	46.5	72.0	66.7	29.3
Private	40.2	85.3	93.2	42.9	66.4	62.5	33.6
Private school affiliation[2]							
Catholic	41.7	87.3	93.4	47.5	68.4	67.3	33.4
Other religious	34.4	82.1	94.6	41.6	72.6	57.6	33.9
Nonsectarian	46.6	85.4	90.1	34.2	51.4	55.9	27.5
Bilingual or ESL class							
Yes	37.0	83.2	92.4	51.1	78.9	70.3	37.7
No	38.4	86.3	90.8	45.9	70.6	66.0	29.1
LEP enrollment in school[2]							
0 percent	41.1	87.4	90.6	45.8	67.1	65.3	28.7
1–9 percent	34.0	86.1	91.6	44.1	73.7	65.2	28.6
10 percent or more	45.8	84.3	95.2	55.4	78.0	70.9	37.7
Free/reduced-price lunch recipients in school[2]							
5 percent or less	34.6	87.5	89.4	32.7	57.4	65.7	18.8
6–20 percent	34.4	85.7	91.4	44.1	69.1	62.6	29.3
21–40 percent	35.3	87.4	88.9	40.9	66.8	63.0	24.7
More than 40 percent	44.1	86.4	93.3	55.5	79.8	72.2	34.1
Class ability level							
Above school average	50.8	91.6	92.7	51.0	75.0	63.0	34.9
At school average	32.6	79.9	89.9	42.2	72.2	63.7	25.6
Below school average	37.3	90.3	90.5	54.1	76.5	72.5	26.4
Mixed	38.2	85.1	91.2	40.7	69.0	64.9	32.1
Teacher characteristics							
Teaching experience[3]							
1–4 years	32.7	84.2	89.7	41.5	69.0	64.4	37.2
5–10 years	34.5	83.3	92.0	45.4	74.1	70.4	29.4
11–20 years	39.5	87.2	92.7	47.5	69.1	67.3	27.0
21 years or more	41.9	87.1	88.4	47.6	73.0	63.2	29.9

Table A10—Percentage of teachers who used student portfolios for various purposes during the last semester or grading period, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Reflection on each piece of work weekly	Reflection on overall progress over semester	Communication with parents over semester	Weekly lesson planning	Diagnosing learning problems on monthly basis	Making decisions about student placement	Making decisions about graduation
Highest earned degree[3]							
BA/BS or less	35.1	84.0	91.0	45.8	69.3	68.0	29.6
MA/MS	42.7	88.4	90.5	46.4	73.5	63.6	29.7
More than MA/MS	36.4	88.1	93.4	50.4	74.1	69.7	31.1
Professional development on assessment[3]							
Yes	39.0	89.5	92.7	49.0	74.4	69.6	30.3
No	37.4	81.6	88.6	42.9	67.4	62.2	28.9
Professional development on content[3]							
Yes	42.1	85.9	91.4	49.7	74.2	68.8	32.2
No	36.5	86.1	90.6	44.8	69.9	65.1	28.5
Professional development on cooperative learning[3]							
Yes	42.2	89.1	92.0	49.5	74.9	72.6	33.4
No	33.7	82.4	89.6	42.6	67.1	59.0	25.4
Professional development on education technology[3]							
Yes	38.3	88.4	92.6	49.0	74.6	69.0	30.7
No	38.3	83.4	89.0	43.3	67.7	63.3	28.6
Professional development on methods[3]							
Yes	39.1	87.2	92.4	47.2	72.6	67.6	30.1
No	36.7	83.6	87.9	44.4	68.6	63.6	28.9

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table A11—Percentage of teachers who considered various aspects of student performance very or extremely important in determining student grades or formal progress reports, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Effort	Individual improvement	Achievement relative to class	Absolute achievement	Portfolio items
Total	96.6	83.9	24.6	76.1	49.6
Class or school characteristics					
Sector[1]					
Public	96.7	84.4	24.2	75.7	50.3
Private	96.3	80.1	26.7	79.1	44.2
Private school affiliation[2]					
Catholic	97.3	84.3	30.1	81.4	48.2
Other religious	94.7	73.8	24.6	81.6	37.6
Nonsectarian	97.3	82.0	26.2	71.9	48.1
Bilingual or ESL class					
Yes	96.1	85.9	32.1	84.3	66.5
No	96.7	83.8	24.1	75.5	48.6
LEP enrollment in school[2]					
0 percent	96.9	85.0	23.1	74.7	45.6
1–9 percent	96.0	83.5	23.4	78.4	52.2
10 percent or more	98.7	88.8	36.8	85.3	62.2
Free/reduced-price lunch recipients in school[2]					
5 percent or less	92.4	79.2	24.8	79.2	43.8
6–20 percent	96.4	84.2	24.3	77.9	47.5
21–40 percent	98.0	85.5	21.5	76.0	49.6
More than 40 percent	97.5	88.2	25.4	76.0	55.4
Class ability level					
Above school average	96.7	80.4	30.1	83.1	50.4
At school average	96.3	84.0	29.3	78.2	47.8
Below school average	96.6	87.7	18.7	67.7	57.9
Mixed	96.2	83.0	23.8	80.5	48.0
Teacher characteristics					
Teaching experience[3]					
1–4 years	96.7	83.8	22.3	73.3	51.3
5–10 years	95.7	84.4	22.2	79.4	48.5
11–20 years	96.3	85.0	23.3	75.2	53.9
21 years or more	97.6	82.5	28.7	75.8	45.0
Highest earned degree[3]					
BA/BS or less	96.6	83.9	24.1	75.9	48.4
MA/MS	96.7	83.0	25.5	75.6	50.5
More than MA/MS	96.3	92.2	22.3	81.9	56.2

Table A11—Percentage of teachers who considered various aspects of student performance very or extremely important in determining student grades or formal progress reports, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Effort	Individual improvement	Achievement relative to class	Absolute achievement	Portfolio items
Professional development on assessment[3]					
Yes	97.3	85.9	25.1	76.5	56.6
No	96.0	82.1	24.1	75.6	42.9
Professional development on content[3]					
Yes	97.2	87.5	28.2	78.2	57.6
No	96.4	82.6	23.2	75.2	46.5
Professional development on cooperative learning[3]					
Yes	97.7	86.8	26.2	75.9	53.1
No	95.6	81.2	23.0	76.2	46.2
Professional development on education technology[3]					
Yes	96.2	84.3	26.5	78.5	53.8
No	97.0	83.6	22.9	73.9	45.8
Professional development on methods[3]					
Yes	97.0	85.0	25.2	77.1	54.0
No	96.0	82.3	23.7	74.4	42.5

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

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Appendix B—Standard Error Tables

Table B1—Standard errors for tables 1 and A1: Percentage distribution of teachers according to subject area of designated class, by class grade level and sector: 1994–95

Class grade level and sector	General elementary	English/ language arts	Math-ematics	Science	Social studies	Special education	Bilingual/ ESL	Vocational education	Other
Total	0.92	0.53	0.41	0.40	0.53	0.81	0.22	0.41	0.79
Class grade level									
K–3 (Primary)	1.48	0.78	0.07	—	0.00	(1)	0.56	0.00	0.96
4–6 (Intermediate)	2.67	1.66	1.39	1.27	0.88	(1)	0.41	0.60	2.18
7–8 (Middle/junior high)	1.13	2.20	2.10	2.37	2.00	(1)	0.79	1.60	2.71
9–12 (High school)	—	1.26	1.20	1.12	1.60	(1)	0.30	1.37	1.77
Mixed	2.19	1.99	1.11	1.23	1.47	(1)	0.99	1.42	2.98
Special education	(1)	(1)	(1)	(1)	(1)	0.00	(1)	(1)	(1)
Sector[2]									
Public	0.99	0.60	0.50	0.51	0.58	0.88	0.20	0.40	0.87
Private	1.39	0.84	0.73	0.51	0.68	0.80	0.16	0.32	1.33

—Too few cases for a reliable estimate.

[1]Special education teachers were defined as separate category in both grade level and subject area variables.

[2]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey: 1994–95.

Table B2—Standard errors for tables 2 and A2: Percentage of teachers who used various grouping patterns at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Teacher activities			Student activities				
	Provided whole group instruction	Worked with small groups	Worked with individual students	Worked individually on projects	Conferred with other students	Group project, individual grade	Group project, group grade	Whole class discussed group-work
Total	0.33	0.58	0.36	1.21	1.07	1.10	0.88	0.91
Class or school characteristics								
Class grade level								
K–3 (Primary)	0.20	0.77	0.60	2.22	2.43	2.03	1.48	2.02
4–6 (Intermediate)	0.71	1.63	0.89	3.08	2.66	3.07	2.53	2.77
7–8 (Middle/junior high)	0.66	2.54	1.79	2.78	3.10	2.99	2.37	2.70
9–12 (High school)	0.58	1.73	1.03	2.13	1.93	1.83	1.62	1.70
Mixed	0.98	2.11	1.33	3.59	3.20	3.41	3.30	2.92
Special education	1.14	1.16	0.56	2.50	2.44	2.40	2.19	1.83
Class subject area								
General elementary	0.40	0.71	0.30	2.12	1.53	1.98	1.58	1.80
English/language arts	1.03	2.76	1.04	2.77	3.47	2.30	2.10	2.58
Mathematics	0.24	2.02	0.46	3.60	2.88	3.03	2.51	3.03
Science	0.00	2.37	2.00	4.39	3.80	4.36	3.40	3.62
Social studies	0.54	4.08	2.70	3.49	4.12	3.98	3.13	3.41
Special education	1.14	1.16	0.56	2.50	2.44	2.40	2.19	1.83
Bilingual/ESL	0.00	9.48	0.24	11.53	10.09	9.80	7.81	10.40
Vocational education	2.01	3.77	1.50	4.70	4.03	4.66	5.20	4.07
Other	0.70	1.80	1.54	2.67	2.22	2.57	1.87	1.90
Sector[1]								
Public	0.36	0.60	0.38	1.36	1.23	1.20	0.99	1.03
Private	0.56	1.24	0.69	1.44	1.34	1.00	0.99	1.21
Private school affiliation[2]								
Catholic	1.00	1.99	1.34	2.60	2.40	1.96	1.59	1.93
Other religious	0.66	2.32	1.37	2.76	2.58	2.09	1.40	2.30
Nonsectarian	1.10	1.92	1.12	2.91	3.04	2.99	2.86	3.21
Bilingual or ESL class								
Yes	0.81	2.31	1.54	4.62	4.37	4.13	3.21	3.84
No	0.36	0.58	0.38	1.30	1.09	1.10	0.89	0.92
LEP enrollment in school[2]								
0 percent	0.63	1.04	0.40	1.59	1.42	1.42	1.20	1.40
1–9 percent	0.32	1.09	0.80	1.81	1.49	1.63	1.51	1.73
10 percent or more	0.87	2.36	1.96	3.88	3.90	3.52	3.67	3.79

Table B2—Standard errors for tables 2 and A2: Percentage of teachers who used various grouping patterns at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Teacher activities			Student activities				
	Provided whole group instruction	Worked with small groups	Worked with individual students	Worked individually on projects	Conferred with other students	Group project, individual grade	Group project, group grade	Whole class discussed group-work
Free/reduced-price lunch recipients in school[2]								
5 percent or less	1.31	3.06	1.60	4.73	3.73	4.24	3.80	3.72
6–20 percent	0.64	1.64	1.17	1.94	2.40	2.40	1.97	2.31
21–40 percent	0.73	1.73	0.98	2.92	2.71	2.78	2.33	2.81
More than 40 percent	0.53	1.20	0.46	2.59	2.50	2.03	1.80	2.26
Class ability level								
Above school average	0.43	2.01	1.09	2.90	2.72	2.72	2.37	2.94
At school average	0.61	1.80	0.76	2.18	2.22	2.47	2.02	2.11
Below school average	1.40	1.39	0.60	2.94	2.80	2.79	2.11	2.61
Mixed	0.17	1.00	0.71	2.00	1.57	1.97	1.72	1.64
Teacher characteristics								
Teaching experience[3]								
1–4 years	0.40	0.94	0.44	1.60	1.30	1.40	1.34	1.32
5–10 years	0.71	1.64	0.71	2.41	2.20	1.90	1.71	2.20
11–20 years	0.57	0.96	0.53	1.94	1.73	2.17	1.52	1.86
21 years or more	0.47	1.19	0.80	2.11	1.84	2.06	1.89	1.67
Highest earned degree[4]								
BA/BS or less	0.57	0.94	0.51	1.68	1.31	1.12	1.02	1.29
MA/MS	0.36	1.21	0.63	1.84	1.63	1.94	1.68	1.73
More than MA/MS	0.36	2.76	0.40	5.16	5.51	5.00	3.97	4.00
Professional development on assessment[5]								
Yes	0.40	0.73	0.50	1.57	1.24	1.63	1.32	1.19
No	0.43	1.11	0.51	1.57	1.73	1.38	0.97	1.19
Professional development on content[5]								
Yes	0.60	0.92	0.66	2.28	1.98	2.09	1.60	1.91
No	0.37	0.79	0.40	1.41	1.28	1.19	1.00	1.04
Professional development on cooperative learning[5]								
Yes	0.42	0.74	0.44	1.73	1.23	1.42	1.37	1.28
No	0.39	1.12	0.54	1.40	1.58	1.50	1.09	1.29

Table B2—Standard errors for tables 2 and A2: Percentage of teachers who used various grouping patterns at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Teacher activities			Student activities				
	Provided whole group instruction	Worked with small groups	Worked with individual students	Worked individually on projects	Conferred with other students	Group project, individual grade	Group project, group grade	Whole class discussed group-work
Professional development on education technology[3]								
Yes	0.47	0.79	0.52	1.78	1.48	1.71	1.63	1.49
No	0.37	0.90	0.57	1.44	1.78	1.43	0.76	1.04
Professional development on methods[3]								
Yes	0.40	0.60	0.43	1.46	1.32	1.41	1.16	1.17
No	0.60	1.34	0.67	1.86	1.84	1.44	1.13	1.54

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B3—Standard errors for tables 3 and A3: Percentage of teachers who used various means of delivering information or instruction to their students at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Strategies involving teacher talk		Strategies involving teacher-student talk				Strategies involving student-student talk		
	Teacher lectured students	Teacher presentations	Students talked primarily with teacher	Teacher led question–answer session	Students answered recall questions	Students answered open-ended questions	Students led whole group discussion	Students talked primarily with students	Teacher facilitated discussion
Total	1.12	1.00	0.80	0.66	0.68	0.71	0.87	0.82	0.60
Class or school characteristics									
Class grade level									
K–3 (Primary)	2.79	1.73	1.01	1.16	0.74	1.43	2.61	2.02	0.72
4–6 (Intermediate)	2.67	2.43	1.33	1.40	1.23	1.77	2.94	2.60	0.78
7–8 (Middle/junior high)	2.81	2.93	2.76	2.20	2.26	2.76	3.80	3.32	1.40
9–12 (High school)	1.97	1.47	1.48	1.58	1.48	1.67	1.80	1.76	1.47
Mixed	3.31	3.31	3.11	3.00	2.17	2.51	3.52	3.20	2.80
Special education	2.72	2.03	2.16	1.44	1.34	1.41	2.13	1.91	1.31
Class subject area									
General elementary	2.06	1.24	0.82	1.00	0.80	1.17	2.24	1.47	0.49
English/language arts	3.67	2.60	2.60	1.82	2.57	2.12	2.97	3.01	1.44
Mathematics	3.33	2.74	3.00	2.63	2.48	2.87	3.96	3.56	3.06
Science	3.17	3.06	3.82	2.12	2.17	3.59	4.37	4.04	1.54
Social studies	3.69	3.06	2.61	2.53	1.94	2.89	3.89	3.43	1.69
Special education	2.72	2.03	2.16	1.44	1.34	1.41	2.13	1.91	1.31
Bilingual/ESL	11.12	9.80	6.96	9.27	7.24	7.74	9.59	8.58	3.83
Vocational education	4.83	3.39	3.99	3.99	4.48	3.67	5.53	4.17	4.96
Other	2.90	2.09	2.22	2.39	1.89	1.77	1.98	2.50	1.90
Sector[1]									
Public	1.29	1.06	0.90	0.80	0.79	0.83	0.91	0.91	0.68
Private	1.52	1.14	1.18	1.20	0.94	1.04	1.97	1.10	0.96
Private school affiliation[2]									
Catholic	2.47	2.14	2.54	1.72	1.98	1.77	2.83	2.07	1.80
Other religious	2.71	1.87	1.50	2.31	1.52	1.80	3.16	2.08	1.38
Nonsectarian	3.67	2.43	2.21	2.27	2.11	2.62	3.14	2.29	1.60
Bilingual or ESL class									
Yes	3.80	3.11	2.93	3.38	2.77	3.04	4.27	3.10	1.63
No	1.12	0.98	0.80	0.70	0.69	0.72	0.92	0.86	0.62
LEP enrollment in school[2]									
0 percent	1.57	1.57	1.09	1.07	0.92	1.03	1.40	1.28	0.88
1–9 percent	1.60	1.49	1.12	0.97	1.22	1.14	1.59	1.52	0.82
10 percent or more	4.36	3.04	2.86	3.12	2.86	2.86	4.43	3.56	2.68

Table B3—Standard errors for tables 3 and A3: Percentage of teachers who used various means of delivering information or instruction to their students at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Strategies involving teacher talk		Strategies involving teacher-student talk				Strategies involving student-student talk		
	Teacher lectured students	Teacher presentations	Students talked primarily with teacher	Teacher led question–answer session	Students answered recall questions	Students answered open-ended questions	Students led whole group discussion	Students talked primarily with students	Teacher facilitated discussion
Free/reduced-price lunch recipients in school[2]									
5 percent or less	4.23	3.52	2.80	3.28	2.16	2.20	3.91	2.80	2.28
6–20 percent	2.40	2.20	1.74	1.92	1.50	1.92	2.23	2.00	1.60
21–40 percent	2.60	2.10	2.03	1.74	1.66	1.96	2.60	2.38	1.32
More than 40 percent	2.60	1.56	1.32	1.42	1.41	1.49	2.19	1.91	1.08
Class ability level									
Above school average	2.29	2.49	1.59	1.63	1.48	1.83	2.90	2.10	1.19
At school average	2.43	1.49	1.77	1.57	1.49	1.60	2.26	1.86	1.20
Below school average	2.88	2.89	2.07	1.81	1.80	2.27	3.21	2.88	1.57
Mixed	2.02	1.40	1.40	0.93	0.93	1.07	2.12	1.38	1.00
Teacher characteristics									
Teaching experience[3]									
1–4 years	1.48	1.42	1.30	1.06	1.08	1.11	1.71	1.26	0.91
5–10 years	2.26	2.16	1.67	1.64	1.41	1.60	2.12	1.73	1.21
11–20 years	1.91	1.56	1.39	1.36	1.04	1.06	2.02	1.47	1.04
21 years or more	2.04	1.61	1.38	1.28	1.12	1.36	1.78	1.86	1.07
Highest earned degree[3]									
BA/BS or less	1.58	1.08	0.90	0.90	0.83	1.00	1.46	1.20	0.82
MA/MS	1.63	1.52	1.46	1.31	1.09	1.14	1.47	1.59	0.91
More than MA/MS	4.10	4.73	2.94	3.29	2.86	2.01	4.34	3.10	1.20
Professional development on assessment[3]									
Yes	1.40	1.54	0.98	0.88	0.90	1.04	1.30	1.13	0.76
No	1.51	1.08	1.09	1.00	1.04	1.09	1.28	1.30	0.84
Professional development on content[3]									
Yes	2.14	1.71	1.50	1.30	1.32	1.06	1.68	1.52	1.04
No	1.36	1.14	0.99	0.86	0.72	0.91	1.14	1.00	0.67
Professional development on cooperative learning[3]									
Yes	1.48	1.40	1.00	1.00	0.80	1.01	1.02	1.28	0.96
No	1.40	1.32	1.19	1.01	1.00	1.07	1.40	1.20	0.78

Table B3—Standard errors for tables 3 and A3: Percentage of teachers who used various means of delivering information or instruction to their students at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Strategies involving teacher talk		Strategies involving teacher-student talk				Strategies involving student-student talk		
	Teacher lectured students	Teacher presentations	Students talked primarily with teacher	Teacher led question–answer session	Students answered recall questions	Students answered open-ended questions	Students led whole group discussion	Students talked primarily with students	Teacher facilitated discussion
Professional development on education technology[3]									
Yes	1.44	1.43	1.09	0.80	1.10	1.09	1.44	1.29	0.91
No	1.39	1.20	1.10	1.10	0.77	1.00	1.33	1.23	0.89
Professional development on methods[3]									
Yes	1.43	1.23	0.94	0.79	0.87	0.86	1.18	1.00	0.74
No	1.60	1.38	1.46	1.03	1.03	1.17	1.62	1.50	0.90

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B4—Standard errors for tables 4 and A4: Percentage of teachers whose students used various materials in class or in homework assignments at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Used in class			Used in homework		
	Textbooks	Supplementary printed materials	Routine exercises	Read textbooks	Read supplementary materials	Routine exercises
Total	1.11	0.77	0.77	1.08	0.98	0.92
Class or school characteristics						
Class grade level						
K–3 (Primary)	2.39	1.20	2.00	2.19	2.36	2.23
4–6 (Intermediate)	1.94	2.00	2.14	2.64	2.46	2.36
7–8 (Middle/junior high)	2.67	3.39	2.48	3.08	3.91	2.84
9–12 (High school)	1.49	1.89	1.86	1.60	2.11	1.73
Mixed	3.46	3.23	3.17	3.24	2.98	2.92
Special education	2.40	1.71	1.90	3.00	2.40	2.54
Class subject area						
General elementary	1.82	0.91	1.38	1.89	1.68	1.79
English/language arts	2.83	2.66	2.73	2.92	3.54	3.24
Mathematics	2.23	3.13	2.83	3.40	2.84	3.13
Science	4.07	3.81	3.80	3.80	4.53	3.89
Social studies	2.00	3.97	3.08	1.36	4.31	3.18
Special education	2.40	1.71	1.90	3.00	2.40	2.54
Bilingual/ESL	10.32	6.27	9.72	11.39	9.52	10.79
Vocational education	4.29	4.46	5.59	4.61	5.04	5.19
Other	2.38	2.37	2.48	2.42	2.31	2.53
Sector[1]						
Public	1.27	0.87	0.87	1.21	1.10	1.03
Private	1.18	1.19	1.31	1.43	1.24	1.38
Private school affiliation[2]						
Catholic	1.77	2.39	2.50	2.32	2.67	1.83
Other religious	2.31	2.99	2.24	2.62	2.78	2.42
Nonsectarian	2.90	3.14	3.44	3.98	3.81	3.71
Bilingual or ESL class						
Yes	4.20	3.00	4.17	4.00	4.82	3.89
No	1.11	0.82	0.82	1.04	1.01	1.01
LEP enrollment in school[2]						
0 percent	1.31	1.40	0.86	1.20	1.31	1.37
1–9 percent	1.98	1.38	1.53	2.00	1.94	2.03
10 percent or more	4.01	2.70	4.28	4.29	4.61	4.09

Table B4—Standard errors for tables 4 and A4: Percentage of teachers whose students used various materials in class or in homework assignments at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Used in class			Used in homework		
	Textbooks	Supplementary printed materials	Routine exercises	Read textbooks	Read supplementary materials	Routine exercises
Free/reduced-price lunch recipients in school[2]						
5 percent or less	3.90	3.20	4.27	4.28	3.50	4.68
6–20 percent	2.41	2.34	2.20	1.96	2.36	2.31
21–40 percent	2.50	2.73	2.79	2.37	3.07	2.08
More than 40 percent	2.00	1.42	2.10	2.12	2.50	2.00
Class ability level						
Above school average	2.64	2.17	2.74	2.88	2.17	2.69
At school average	2.28	1.98	2.18	2.64	1.97	2.39
Below school average	2.60	1.74	2.68	2.71	3.34	2.80
Mixed	1.40	1.43	1.61	1.77	1.83	1.76
Teacher characteristics						
Teaching experience[3]						
1–4 years	1.20	1.32	1.43	1.57	1.38	1.67
5–10 years	2.14	1.80	2.00	2.40	2.31	2.18
11–20 years	1.81	1.52	1.58	1.84	1.82	1.69
21 years or more	1.42	1.53	1.39	1.86	1.93	1.70
Highest earned degree[3]						
BA/BS or less	1.36	0.98	1.07	1.37	1.38	1.21
MA/MS	1.94	1.57	1.43	1.78	1.63	1.71
More than MA/MS	3.48	2.49	3.73	4.11	4.06	4.04
Professional development on assessment[3]						
Yes	1.46	1.10	1.41	1.71	1.54	1.18
No	1.42	1.01	1.06	1.30	1.20	1.32
Professional development on content[3]						
Yes	2.39	1.66	1.83	1.96	1.89	1.93
No	1.31	0.92	0.94	1.30	1.26	1.00
Professional development on cooperative learning[3]						
Yes	1.40	1.19	1.31	1.54	1.53	1.40
No	1.59	1.27	1.21	1.58	1.47	1.39

Table B4—Standard errors for tables 4 and A4: Percentage of teachers whose students used various materials in class or in homework assignments at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Used in class			Used in homework		
	Textbooks	Supplementary printed materials	Routine exercises	Read textbooks	Read supplementary materials	Routine exercises
Professional development on education technology[3]						
Yes	1.40	1.12	1.34	1.66	1.84	1.42
No	1.37	1.12	1.16	1.41	1.40	1.26
Professional development on methods[3]						
Yes	1.33	0.98	1.06	1.43	1.17	1.28
No	1.80	1.38	1.26	1.60	1.77	1.60

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B5—Standard errors for tables 5 and A5: Percentage of teachers who used various technologies or materials at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Teacher used to demonstrate concept			Students used		
	Board or overhead	Computer, video, electronic media	Manipulatives or models	Hands-on materials	School computers for writing	Calculators
Total	0.59	0.93	1.06	0.93	0.88	0.92
Class or school characteristics						
Class grade level						
K–3 (Primary)	1.21	2.32	0.73	1.03	2.00	1.40
4–6 (Intermediate)	1.46	2.68	2.81	2.99	3.38	2.76
7–8 (Middle/junior high)	2.14	4.01	3.26	2.66	3.01	2.40
9–12 (High school)	1.24	1.86	2.06	1.94	1.41	1.67
Mixed	2.60	2.74	2.74	2.09	2.23	2.12
Special education	1.80	2.39	2.19	1.87	2.13	2.22
Class subject area						
General elementary	0.79	1.84	1.22	1.14	1.92	1.58
English/language arts	1.63	3.00	3.61	3.27	2.67	1.41
Mathematics	1.21	3.84	3.40	3.40	2.72	2.80
Science	1.92	5.08	3.86	4.00	4.27	3.57
Social studies	1.40	5.27	4.53	3.81	1.99	2.13
Special education	1.80	2.39	2.19	1.87	2.13	2.22
Bilingual/ESL	2.70	9.22	12.58	8.31	9.38	4.40
Vocational education	3.51	4.20	4.67	3.10	4.51	4.76
Other	2.38	2.08	2.31	2.19	1.48	1.04
Sector[1]						
Public	0.67	1.00	1.20	1.02	1.00	1.04
Private	1.00	1.48	1.56	1.27	1.51	1.08
Private school affiliation[2]						
Catholic	1.52	2.78	2.56	2.00	2.61	2.18
Other religious	1.32	2.76	2.96	2.30	2.41	2.02
Nonsectarian	2.71	3.77	3.00	2.81	3.46	2.90
Bilingual or ESL class						
Yes	2.94	4.81	5.00	2.84	4.08	3.40
No	0.61	0.97	1.20	0.97	0.93	0.98
LEP enrollment in school[2]						
0 percent	1.01	1.24	1.49	1.54	1.40	1.53
1–9 percent	1.19	2.00	1.58	1.40	1.60	1.41
10 percent or more	2.70	4.06	3.13	3.21	4.14	3.50

Table B5—Standard errors for tables 5 and A5: Percentage of teachers who used various technologies or materials at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Teacher used to demonstrate concept			Students used		
	Board or overhead	Computer, video, electronic media	Manipulatives or models	Hands-on materials	School computers for writing	Calculators
Free/reduced-price lunch recipients in school[2]						
5 percent or less	2.98	4.88	4.13	3.82	3.60	3.56
6–20 percent	1.82	2.48	2.24	1.98	2.62	2.69
21–40 percent	1.64	2.93	2.42	2.10	2.26	1.92
More than 40 percent	1.40	1.94	1.77	1.51	2.36	2.02
Class ability level						
Above school average	1.36	2.49	2.66	2.26	2.43	2.11
At school average	1.46	1.94	2.31	1.88	1.97	1.73
Below school average	1.49	2.93	2.52	2.72	2.81	2.57
Mixed	0.83	1.82	1.61	1.46	1.62	1.68
Teacher characteristics						
Teaching experience[3]						
1–4 years	0.80	1.83	1.39	1.37	1.57	1.38
5–10 years	1.30	1.96	2.09	1.90	2.11	2.12
11–20 years	1.29	1.48	1.59	1.21	1.69	1.69
21 years or more	1.10	2.01	1.93	1.93	1.53	1.57
Highest earned degree[3]						
BA/BS or less	0.89	1.20	1.34	1.11	1.20	1.19
MA/MS	1.17	1.94	1.66	1.47	1.54	1.48
More than MA/MS	2.51	4.82	3.04	4.38	5.19	5.61
Professional development on assessment[3]						
Yes	0.82	1.50	1.30	1.16	1.28	1.57
No	0.91	1.42	1.57	1.52	1.26	1.17
Professional development on content[3]						
Yes	1.31	1.68	1.80	1.61	1.68	1.94
No	0.68	1.12	1.19	1.01	1.16	1.11
Professional development on cooperative learning[3]						
Yes	0.83	1.47	1.40	1.14	1.38	1.49
No	0.82	1.40	1.37	1.26	1.39	1.20

Table B5—Standard errors for tables 5 and A5: Percentage of teachers who used various technologies or materials at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Teacher used to demonstrate concept			Students used		
	Board or overhead	Computer, video, electronic media	Manipulatives or models	Hands-on materials	School computers for writing	Calculators
Professional development on education technology[3]						
Yes	0.72	1.37	1.52	1.31	1.20	1.50
No	0.94	1.27	1.28	1.14	1.18	1.03
Professional development on methods[3]						
Yes	0.83	1.32	1.21	1.11	1.12	1.20
No	1.09	1.74	1.57	1.40	1.33	1.59

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B6—Standard errors for tables 6 and A6: Percentage of teachers whose students engaged in various higher level tasks in class or as homework at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Tasks done in class				Tasks done as homework		
	Linked school and real world	Ordered events/ things and explained order	Did problems with several answers	Did problems with several solution methods	Project or experiment	Problems with no obvious solution	Apply concepts in new context
Total	1.01	1.00	1.03	1.08	0.88	0.67	1.03
Class or school characteristics							
Class grade level							
K–3 (Primary)	2.36	2.30	2.39	2.14	1.67	1.27	1.91
4–6 (Intermediate)	2.54	2.76	2.93	2.92	2.99	2.32	2.57
7–8 (Middle/junior high)	2.92	3.00	3.49	2.78	2.80	2.70	4.00
9–12 (High school)	2.18	2.20	2.14	2.06	1.98	1.33	2.60
Mixed	3.40	3.61	3.29	3.17	2.81	2.22	2.99
Special education	2.19	2.64	2.39	2.73	2.11	1.39	2.08
Class subject area							
General elementary	1.64	1.90	1.80	1.64	1.36	1.20	1.54
English/language arts	2.80	3.10	3.78	3.38	2.31	1.79	3.40
Mathematics	4.02	3.40	4.23	3.80	2.57	2.54	4.10
Science	3.99	3.41	4.38	3.90	4.01	4.02	4.19
Social studies	4.90	3.36	4.58	4.29	3.20	3.04	4.63
Special education	2.19	2.64	2.39	2.73	2.11	1.39	2.08
Bilingual/ESL	11.60	10.10	9.91	9.71	4.07	4.13	8.84
Vocational education	5.01	5.04	4.80	4.91	5.04	4.10	4.31
Other	2.53	2.36	2.31	2.36	1.92	1.33	2.50
Sector[1]							
Public	1.10	1.12	1.13	1.20	1.02	0.76	1.14
Private	1.33	1.60	1.41	1.32	1.20	0.90	1.49
Private school affiliation[2]							
Catholic	2.18	2.38	2.02	2.01	2.01	1.60	2.54
Other religious	2.12	2.78	2.94	2.59	1.62	1.36	2.91
Nonsectarian	3.63	3.48	3.49	3.38	3.00	2.77	4.38
Bilingual or ESL class							
Yes	3.83	4.64	3.92	4.19	3.48	2.70	4.20
No	1.04	1.07	1.06	1.10	1.00	0.68	1.04
LEP enrollment in school[2]							
0 percent	1.49	1.66	1.72	1.63	1.08	0.91	1.61
1–9 percent	1.40	1.80	1.59	1.58	1.60	1.43	1.43
10 percent or more	3.97	3.89	3.78	4.02	3.38	4.02	4.34

Table B6—Standard errors for tables 6 and A6: Percentage of teachers whose students engaged in various higher level tasks in class or as homework at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Tasks done in class				Tasks done as homework		
	Linked school and real world	Ordered events/ things and explained order	Did problems with several answers	Did problems with several solution methods	Project or experiment	Problems with no obvious solution	Apply concepts in new context
Free/reduced-price lunch recipients in school[2]							
5 percent or less	4.02	4.50	3.44	3.91	3.04	2.26	3.73
6–20 percent	2.00	2.52	2.71	2.72	2.09	1.94	2.59
21–40 percent	2.80	2.20	2.56	2.90	2.12	1.90	2.43
More than 40 percent	2.06	2.38	1.87	2.27	1.90	1.60	2.30
Class ability level							
Above school average	2.64	3.00	3.03	2.64	2.51	2.34	2.30
At school average	2.22	2.19	2.04	1.93	1.61	1.47	2.23
Below school average	2.78	2.29	3.12	3.36	2.17	1.51	3.07
Mixed	1.90	2.00	2.00	2.10	1.52	1.22	1.88
Teacher characteristics							
Teaching experience[3]							
1–4 years	1.21	1.80	1.38	1.69	1.60	1.23	1.56
5–10 years	2.80	2.18	2.21	2.31	1.64	1.52	2.31
11–20 years	1.70	1.58	1.78	2.16	1.96	1.34	1.82
21 years or more	1.64	2.16	1.84	1.80	1.68	1.39	2.07
Highest earned degree[4]							
BA/BS or less	1.43	1.44	1.16	1.18	1.12	0.77	1.41
MA/MS	1.67	1.40	1.69	1.68	1.40	1.29	1.52
More than MA/MS	4.87	4.83	4.80	4.99	4.51	2.77	5.64
Professional development on assessment[5]							
Yes	1.21	1.57	1.32	1.29	1.00	1.07	1.52
No	1.30	1.41	1.53	1.63	1.41	0.99	1.38
Professional development on content[5]							
Yes	1.82	2.04	1.72	1.42	1.77	1.57	1.83
No	1.29	1.23	1.32	1.40	1.03	0.71	1.29
Professional development on cooperative learning[5]							
Yes	1.22	1.61	1.13	1.27	1.12	0.99	1.58
No	1.54	1.53	1.60	1.59	1.37	1.00	1.36

Table B6—Standard errors for tables 6 and A6: Percentage of teachers whose students engaged in various higher level tasks in class or as homework at least once a week during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95 —Continued

Selected characteristics	Tasks done in class				Tasks done as homework		
	Linked school and real world	Ordered events/ things and explained order	Did problems with several answers	Did problems with several solution methods	Project or experiment	Problems with no obvious solution	Apply concepts in new context
Professional development on education technology[3]							
Yes	1.40	1.70	1.60	1.59	1.52	1.11	1.61
No	1.42	1.60	1.61	1.60	0.78	0.89	1.41
Professional development on methods[3]							
Yes	1.20	1.32	1.07	1.19	0.98	0.97	1.40
No	1.63	1.48	1.68	1.81	1.29	0.98	1.59

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B7—Standard errors for tables 7 and A7: Percentage of teachers who often or always used student homework assignments for various purposes during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Only recorded if completed	Collected, corrected, and discussed	Collected, corrected, and used to plan future lessons
Total	0.99	1.04	0.87
Class or school characteristics			
Class grade level			
K–3 (Primary)	2.80	2.02	2.30
4–6 (Intermediate)	2.46	2.94	2.83
7–8 (Middle/junior high)	3.18	2.80	2.98
9–12 (High school)	1.77	2.29	1.90
Mixed	3.21	3.09	3.48
Special education	2.42	2.33	2.40
Class subject area			
General elementary	2.20	1.86	1.97
English/language arts	3.09	3.60	2.97
Mathematics	3.80	3.78	3.90
Science	4.38	3.93	4.54
Social studies	3.32	4.00	3.98
Special education	2.42	2.33	2.40
Bilingual/ESL	11.04	8.53	10.19
Vocational education	4.82	5.31	5.19
Other	2.18	2.41	2.40
Sector[1]			
Public	1.12	1.19	1.00
Private	1.52	1.67	1.97
Private school affiliation[2]			
Catholic	2.67	2.67	2.38
Other religious	2.56	3.01	3.34
Nonsectarian	3.60	3.22	5.02
Bilingual or ESL class			
Yes	4.40	4.60	3.63
No	1.01	1.00	0.87
LEP enrollment in school[2]			
0 percent	1.50	1.41	1.48
1–9 percent	1.69	1.86	2.00
10 percent or more	4.40	4.46	4.79

Table B7—Standard errors for tables 7 and A7: Percentage of teachers who often or always used student homework assignments for various purposes during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Only recorded if completed	Collected, corrected, and discussed	Collected, corrected, and used to plan future lessons
Free/reduced-price lunch recipients in school[2]			
5 percent or less	3.57	4.46	3.62
6–20 percent	2.43	2.64	2.33
21–40 percent	2.44	2.66	2.51
More than 40 percent	2.00	2.51	2.28
Class ability level			
Above school average	2.40	2.23	2.50
At school average	2.27	2.28	2.39
Below school average	2.87	3.08	2.44
Mixed	2.06	1.91	1.56
Teacher characteristics			
Teaching experience[3]			
1–4 years	1.40	1.79	1.72
5–10 years	2.58	1.90	2.27
11–20 years	1.98	1.91	1.43
21 years or more	1.83	2.06	1.83
Highest earned degree[3]			
BA/BS or less	1.60	1.30	1.16
MA/MS	1.78	1.80	1.61
More than MA/MS	5.19	5.08	5.00
Professional development on assessment[3]			
Yes	1.52	1.38	1.33
No	1.36	1.60	1.41
Professional development on content[3]			
Yes	1.92	1.89	1.99
No	1.16	1.20	1.12
Professional development on cooperative learning[3]			
Yes	1.49	1.41	1.11
No	1.48	1.63	1.40
Professional development on education technology[3]			
Yes	1.80	1.54	1.61
No	1.17	1.40	1.69

Table B7—Standard errors for tables 7 and A7: Percentage of teachers who often or always used student homework assignments for various purposes during the last semester, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Only recorded if completed	Collected, corrected, and discussed	Collected, corrected, and used to plan future lessons
Professional development on methods[3]			
Yes	1.16	1.34	1.06
No	1.52	1.60	1.62

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B8—Standard errors for tables 8 and A8: Percentage of teachers who used portfolios to assess student learning during the last semester according to content area of assessment, by selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Any content area	English/ language arts or reading	Mathematics	Social studies	Science	Other
Total	1.00	0.83	0.96	0.80	0.72	0.81
Class or school characteristics						
Class grade level						
K–3 (Primary)	1.69	1.60	2.17	2.24	1.78	2.20
4–6 (Intermediate)	2.40	2.49	2.12	2.69	2.36	1.77
7–8 (Middle/junior high)	3.60	3.22	2.80	2.20	2.27	1.80
9–12 (High school)	2.23	1.60	1.13	0.93	0.99	1.36
Mixed	2.71	2.46	2.19	2.31	1.72	2.93
Special education	2.37	2.61	2.10	1.97	1.54	1.70
Class subject area						
General elementary	1.57	1.58	1.84	1.69	1.73	1.60
English/language arts	3.04	3.04	1.53	1.68	1.57	0.32
Mathematics	3.32	0.52	3.40	0.38	2.40	0.42
Science	4.47	2.93	2.71	1.26	4.67	1.51
Social studies	4.30	2.00	0.76	4.40	0.80	1.11
Special education	2.37	2.61	2.10	1.97	1.54	1.70
Bilingual/ESL	10.40	10.27	10.79	4.48	4.20	7.08
Vocational education	4.28	0.41	1.61	—	0.04	4.34
Other	2.00	1.40	1.26	1.00	0.90	1.59
Sector[1]						
Public	1.00	0.93	1.10	0.80	0.82	0.92
Private	1.60	1.46	1.42	1.27	1.17	1.08
Private school affiliation[2]						
Catholic	2.76	2.71	2.14	1.60	1.91	1.74
Other religious	3.58	3.36	2.78	2.38	2.32	2.08
Nonsectarian	3.69	2.86	3.00	3.09	2.93	2.27
Bilingual or ESL class						
Yes	4.20	4.57	4.34	3.11	3.50	4.01
No	0.99	0.74	0.96	0.80	0.73	0.84
LEP enrollment in school[2]						
0 percent	1.56	1.40	1.46	1.24	1.18	1.08
1–9 percent	1.79	1.90	1.57	1.71	1.37	1.36
10 percent or more	4.37	4.71	5.41	4.08	3.59	3.93

Table B8—Standard errors for tables 8 and A8: Percentage of teachers who used portfolios to assess student learning during the last semester according to content area of assessment, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Any content area	English/ language arts or reading	Mathematics	Social studies	Science	Other
Free/reduced-price lunch recipients in school[2]						
5 percent or less	4.40	4.01	3.72	3.38	3.37	3.37
6–20 percent	2.70	2.66	2.30	1.98	1.58	1.71
21–40 percent	2.63	2.71	2.57	1.96	2.19	1.96
More than 40 percent	1.96	1.87	2.07	1.56	1.59	2.01
Class ability level						
Above school average	2.67	2.18	2.20	1.64	1.80	1.84
At school average	2.06	1.82	1.73	1.51	1.63	2.04
Below school average	3.20	2.76	3.10	2.16	2.20	2.20
Mixed	1.80	1.84	1.88	1.34	1.40	1.41
Teacher characteristics						
Teaching experience[3]						
1–4 years	1.42	1.41	1.32	0.94	1.03	1.40
5–10 years	2.39	2.47	2.24	1.93	1.97	1.87
11–20 years	1.73	1.48	1.52	1.29	1.18	1.32
21 years or more	1.80	2.12	1.59	1.33	1.53	1.59
Highest earned degree[3]						
BA/BS or less	1.18	1.06	1.21	1.00	0.94	1.23
MA/MS	1.78	1.73	1.44	1.31	1.20	1.28
More than MA/MS	4.33	4.29	4.11	3.33	3.91	3.79
Professional development on assessment[3]						
Yes	1.33	1.17	1.57	1.14	1.24	1.36
No	1.66	1.41	1.00	0.94	0.91	1.22
Professional development on content[3]						
Yes	1.81	2.19	2.16	1.67	1.94	1.47
No	1.13	1.11	1.00	0.89	0.71	0.91
Professional development on cooperative learning[3]						
Yes	1.24	0.99	1.34	1.18	1.13	1.20
No	1.47	1.29	1.23	0.87	0.92	1.06
Professional development on education technology[3]						
Yes	1.43	1.24	1.58	1.13	1.20	1.20
No	1.38	1.30	1.18	0.98	0.96	1.17

Table B8—Standard errors for tables 8 and A8: Percentage of teachers who used portfolios to assess student learning during the last semester according to content area of assessment, by selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Any content area	English/ language arts or reading	Mathematics	Social studies	Science	Other
Professional development on methods[3]						
Yes	1.22	1.22	1.40	1.06	0.98	1.04
No	1.73	1.43	1.24	1.14	1.12	1.28

—Too few cases for a reliable estimate.

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B9—Standard errors for tables 9 and A9: Percentage of teachers who included various types of student work in student portfolios, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Work-sheets	Open-ended problems	Explor-atory investi-gations	Long-term projects	Interdisci-plinary problems	Journal entries	Home-work	Self-reflective writing	Narrative writing	Tests and assess-ments
Total	1.49	1.76	1.19	1.39	1.22	1.32	1.20	1.37	1.63	1.42
Class or school characteristics										
Class grade level										
K–3 (Primary)	3.01	2.82	2.43	2.44	2.31	3.14	2.59	2.80	2.80	2.80
4–6 (Intermediate)	3.82	3.18	3.12	4.40	2.81	3.51	3.57	3.93	4.02	2.94
7–8 (Middle/junior high)	4.27	4.70	4.21	3.87	4.33	3.38	4.19	3.89	4.50	3.98
9–12 (High school)	3.06	3.27	2.63	2.81	2.42	3.22	3.04	2.81	3.21	3.27
Mixed	4.26	5.00	5.39	5.20	3.89	5.13	3.60	5.33	4.73	4.80
Special education	2.81	2.92	2.72	2.97	2.82	2.82	3.01	2.66	3.40	3.01
Class subject area										
General elementary	2.59	2.40	2.03	2.39	1.90	2.60	2.22	1.79	2.20	2.40
English/language arts	3.67	4.20	3.00	4.00	2.99	3.27	3.12	3.60	3.04	4.36
Mathematics	5.11	6.32	5.13	5.48	5.41	4.51	5.91	5.30	4.27	4.20
Science	6.72	6.41	6.53	6.44	5.96	4.87	6.41	7.00	6.40	4.99
Social studies	6.54	6.11	6.88	6.88	5.03	6.39	6.53	6.77	6.58	6.09
Special education	2.81	2.92	2.72	2.97	2.82	2.82	3.01	2.66	3.40	3.01
Bilingual/ESL	13.64	13.67	14.33	14.84	—	14.60	12.69	13.79	15.21	13.50
Vocational education	8.69	8.80	8.61	6.61	7.71	6.28	7.84	4.13	5.30	7.99
Other	3.93	4.58	3.40	4.20	3.60	4.22	3.11	4.84	4.11	3.94
Sector[1]										
Public	1.59	2.02	1.29	1.49	1.37	1.47	1.32	1.51	1.74	1.60
Private	2.20	1.89	1.97	2.31	1.90	2.26	2.48	2.27	2.36	2.08
Private school affiliation[2]										
Catholic	3.81	2.90	2.57	3.14	2.28	3.46	3.37	3.92	4.17	2.94
Other religious	4.14	3.63	4.00	4.60	3.93	4.18	3.77	4.17	4.46	3.29
Nonsectarian	5.38	4.93	5.00	5.20	4.78	4.82	4.80	4.36	5.24	5.17
Bilingual or ESL class										
Yes	4.62	5.69	5.00	5.52	5.22	4.94	5.33	5.98	5.60	4.92
No	1.62	1.81	1.19	1.42	1.24	1.36	1.16	1.42	1.66	1.52
LEP enrollment in school[2]										
0 percent	2.47	2.40	1.90	2.16	2.02	2.26	1.91	2.04	2.31	2.12
1–9 percent	2.49	2.66	2.26	2.77	2.34	2.43	2.08	2.63	2.69	2.68
10 percent or more	5.27	6.10	5.19	4.92	3.67	4.80	5.30	5.87	5.39	4.83

Table B9—Standard errors for tables 9 and A9: Percentage of teachers who included various types of student work in student portfolios, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Work-sheets	Open-ended problems	Explor-atory investi-gations	Long-term projects	Interdisci-plinary problems	Journal entries	Home-work	Self-reflective writing	Narrative writing	Tests and assess-ments
Free/reduced-price lunch recipients in school[2]										
5 percent or less	5.54	4.67	4.27	7.06	4.98	5.16	5.62	6.31	6.00	5.13
6–20 percent	3.83	4.00	3.40	2.99	3.24	4.28	3.13	3.90	3.56	3.82
21–40 percent	2.79	3.40	2.79	3.00	2.62	3.88	2.90	3.37	3.60	2.88
More than 40 percent	2.84	3.32	2.68	2.93	2.26	2.87	3.06	3.03	3.28	2.93
Class ability level										
Above school average	3.74	3.26	3.91	3.46	2.60	3.21	3.89	3.81	4.00	3.73
At school average	3.06	2.96	2.72	2.80	2.96	2.68	2.77	2.86	2.94	2.60
Below school average	3.40	4.40	3.56	3.80	3.59	3.11	3.41	2.61	3.28	4.10
Mixed	2.76	3.30	2.06	2.40	1.79	2.34	2.23	1.78	2.39	2.37
Teacher characteristics										
Teaching experience[3]										
1–4 years	2.03	2.06	1.79	1.97	1.57	2.16	2.46	2.20	2.36	1.92
5–10 years	3.11	3.28	2.96	2.89	3.14	3.47	2.74	2.63	3.79	3.32
11–20 years	2.67	2.80	2.32	2.40	2.31	2.07	2.11	2.89	2.66	2.93
21 years or more	2.67	3.07	2.21	2.44	2.19	2.97	2.56	2.60	3.10	2.52
Highest earned degree[3]										
BA/BS or less	2.10	2.12	1.71	1.68	1.41	1.69	1.51	1.56	1.92	2.02
MA/MS	1.80	2.74	1.84	2.46	2.03	2.46	1.96	2.54	2.46	2.28
More than MA/MS	5.72	6.57	4.86	6.14	5.89	6.27	6.84	7.23	6.12	5.71
Professional development on assessment[3]										
Yes	2.20	2.21	1.78	1.80	1.94	2.10	1.90	1.88	2.24	1.83
No	2.04	1.92	1.63	1.83	1.49	1.88	1.86	1.79	2.10	1.97
Professional development on content[3]										
Yes	2.64	2.54	2.38	2.37	1.93	2.39	2.34	2.40	2.67	3.01
No	1.72	2.00	1.50	1.66	1.47	1.74	1.60	1.74	1.83	1.56
Professional development on cooperative learning[3]										
Yes	2.14	2.14	1.77	2.23	1.83	1.83	1.80	2.20	1.92	1.79
No	1.79	2.42	2.00	1.82	1.59	1.60	1.40	1.93	1.87	2.02
Professional development on education technology[3]										
Yes	2.10	2.59	2.01	2.10	1.91	1.94	1.74	1.92	2.20	2.00
No	1.92	1.72	1.48	1.68	1.24	2.06	1.60	1.92	1.98	1.77

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Table B9—Standard errors for tables 9 and A9: Percentage of teachers who included various types of student work in student portfolios, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Work-sheets	Open-ended problems	Explor-atory investi-gations	Long-term projects	Interdisci-plinary problems	Journal entries	Home-work	Self-reflective writing	Narrative writing	Tests and assess-ments
Professional development on methods[3]										
Yes	1.80	1.99	1.51	1.83	1.47	1.50	1.48	1.63	1.83	1.89
No	2.23	2.80	1.98	2.00	2.39	2.02	2.26	2.40	2.63	2.19

—Too few cases for a reliable estimate.

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B10—Standard errors for tables 10 and A10: Percentage of teachers who used student portfolios for various purposes during the last semester or grading period, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Reflection on each piece of work weekly	Reflection on overall progress over semester	Communication with parents over semester	Weekly lesson planning	Diagnosing learning problems on monthly basis	Making decisions about student placement	Making decisions about graduation
Total	1.30	0.82	0.88	1.22	1.19	1.26	1.39
Class or school characteristics							
Class grade level							
K–3 (Primary)	2.30	2.50	1.30	2.61	2.41	2.66	2.51
4–6 (Intermediate)	3.41	1.60	2.04	3.60	2.60	3.25	3.39
7–8 (Middle/junior high)	4.17	2.61	2.09	4.57	3.81	3.35	3.15
9–12 (High school)	3.33	1.82	2.53	2.44	3.24	3.23	2.95
Mixed	5.20	2.99	1.99	4.43	4.03	4.95	3.63
Special education	2.99	1.96	2.36	3.26	2.54	2.75	2.51
Class subject area							
General elementary	1.94	1.93	1.16	2.37	1.89	2.39	2.08
English/language arts	3.34	1.80	2.09	3.88	3.29	2.87	2.57
Mathematics	4.82	3.28	3.69	4.93	4.54	5.66	5.43
Science	7.02	4.04	3.42	7.53	6.11	5.92	6.19
Social studies	7.30	4.28	5.04	6.46	7.20	6.95	7.07
Special education	2.99	1.96	2.36	3.26	2.54	2.75	2.51
Bilingual/ESL	8.50	4.54	9.44	15.79	7.13	7.27	12.76
Vocational education	7.36	5.63	5.33	7.63	7.51	8.22	7.71
Other	5.13	2.93	2.40	4.56	3.84	4.35	3.55
Sector[1]							
Public	1.42	0.92	0.99	1.40	1.40	1.45	1.51
Private	2.08	1.63	1.02	1.99	2.52	1.94	2.10
Private school affiliation[2]							
Catholic	3.00	2.01	1.59	3.03	3.77	3.17	3.50
Other religious	3.91	2.62	1.60	3.54	4.20	4.03	3.82
Nonsectarian	4.72	3.00	2.90	4.89	6.16	4.74	3.69
Bilingual or ESL class							
Yes	4.54	3.71	2.73	5.02	4.43	4.98	4.19
No	1.32	0.84	0.90	1.33	1.40	1.33	1.44
LEP enrollment in school[2]							
0 percent	2.30	1.60	1.42	2.13	2.30	2.20	2.08
1–9 percent	2.46	1.50	1.38	2.61	2.09	2.08	2.11
10 percent or more	4.80	3.47	2.12	5.09	4.29	3.85	5.71

Table B10—Standard errors for tables 10 and A10: Percentage of teachers who used student portfolios for various purposes during the last semester or grading period, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Reflection on each piece of work weekly	Reflection on overall progress over semester	Communication with parents over semester	Weekly lesson planning	Diagnosing learning problems on monthly basis	Making decisions about student placement	Making decisions about graduation
Free/reduced-price lunch recipients in school[2]							
5 percent or less	6.31	3.60	3.90	5.66	6.34	5.59	4.00
6–20 percent	3.46	2.27	1.80	3.77	3.57	3.20	3.01
21–40 percent	3.11	2.10	2.03	3.38	3.27	3.36	2.68
More than 40 percent	2.79	2.34	1.77	3.18	2.56	2.71	2.89
Class ability level							
Above school average	3.40	1.43	1.90	3.47	3.20	3.48	2.62
At school average	2.91	2.24	1.81	2.87	2.77	3.47	2.68
Below school average	2.74	2.40	2.60	3.60	3.10	4.01	3.01
Mixed	2.10	1.80	1.26	2.12	2.17	2.19	2.26
Teacher characteristics							
Teaching experience[3]							
1–4 years	1.89	1.92	1.60	2.18	2.29	2.16	2.45
5–10 years	3.40	2.23	1.62	3.73	2.93	3.23	2.91
11–20 years	2.20	1.56	1.31	2.22	2.60	2.45	2.46
21 years or more	2.46	1.19	1.99	2.39	2.50	2.55	2.35
Highest earned degree[3]							
BA/BS or less	1.49	1.33	0.97	1.84	1.67	2.01	1.52
MA/MS	2.27	1.40	1.52	2.02	1.99	2.18	2.10
More than MA/MS	6.34	4.86	3.36	6.28	5.62	5.47	6.03
Professional development on assessment[3]							
Yes	1.93	1.02	1.12	1.67	1.31	1.45	2.07
No	1.66	1.57	1.22	1.68	1.98	2.09	1.72
Professional development on content[3]							
Yes	2.42	1.49	1.68	2.40	2.27	1.96	2.45
No	1.47	1.06	1.14	1.54	1.42	1.60	1.50
Professional development on cooperative learning[3]							
Yes	1.73	0.96	1.13	1.73	1.57	1.75	1.90
No	1.76	1.44	1.32	1.80	1.77	1.82	1.77

Table B10—Standard errors for tables 10 and A10: Percentage of teachers who used student portfolios for various purposes during the last semester or grading period, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Reflection on each piece of work weekly	Reflection on overall progress over semester	Communication with parents over semester	Weekly lesson planning	Diagnosing learning problems on monthly basis	Making decisions about student placement	Making decisions about graduation
Professional development on education technology[3]							
Yes	1.66	1.23	1.13	1.96	1.47	1.66	1.99
No	1.67	1.34	1.42	1.49	2.06	1.71	1.82
Professional development on methods[3]							
Yes	1.61	0.99	1.03	1.79	1.62	1.77	1.79
No	2.20	1.62	1.40	1.80	1.99	1.97	1.74

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

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Table B11—Standard errors for tables 11 and A11: Percentage of teachers who considered various aspects of student performance very or extremely important in determining student grades or formal progress reports, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95

Selected characteristics	Effort	Individual improvement	Achievement relative to class	Absolute achievement	Portfolio items
Total	0.34	0.74	0.81	0.91	1.04
Class or school characteristics					
Class grade level					
K–3 (Primary)	0.94	1.20	1.57	2.06	2.24
4–6 (Intermediate)	0.69	1.53	2.44	2.17	2.87
7–8 (Middle/junior high)	1.33	2.08	2.56	2.79	2.74
9–12 (High school)	0.56	1.96	1.87	1.61	1.94
Mixed	0.90	2.56	2.74	2.63	3.27
Special education	0.82	1.29	1.80	2.31	2.09
Class subject area					
General elementary	0.77	1.13	1.39	1.70	1.90
English/language arts	0.99	2.40	2.54	2.59	2.84
Mathematics	1.43	3.56	3.63	2.20	3.32
Science	1.88	3.12	4.02	2.58	4.66
Social studies	1.73	3.59	3.40	2.36	4.56
Special education	0.82	1.29	1.80	2.31	2.09
Bilingual/ESL	0.00	4.04	9.72	9.78	8.48
Vocational education	0.87	3.80	4.43	4.60	3.96
Other	0.61	2.00	2.20	2.59	2.66
Sector[1]					
Public	0.38	0.82	0.92	1.04	1.22
Private	0.60	1.31	1.50	1.41	1.58
Private school affiliation[2]					
Catholic	0.74	1.80	2.20	2.03	2.40
Other religious	1.42	2.78	2.68	2.38	3.11
Nonsectarian	0.82	2.97	3.41	3.20	4.07
Bilingual or ESL class					
Yes	2.38	3.41	4.89	3.43	3.96
No	0.34	0.80	0.80	0.92	1.20
LEP enrollment in school[2]					
0 percent	0.51	1.01	1.24	1.36	1.71
1–9 percent	0.69	1.31	1.50	1.63	2.01
10 percent or more	0.86	2.62	4.30	2.96	4.81

Table B11—Standard errors for tables 11 and A11: Percentage of teachers who considered various aspects of student performance very or extremely important in determining student grades or formal progress reports, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Effort	Individual improvement	Achievement relative to class	Absolute achievement	Portfolio items
Free/reduced-price lunch recipients in school[2]					
5 percent or less	2.23	3.62	4.02	4.10	4.60
6–20 percent	1.12	1.86	2.02	2.08	3.10
21–40 percent	0.78	1.74	2.18	2.06	2.16
More than 40 percent	0.59	1.27	1.64	2.23	2.36
Class ability level					
Above school average	0.78	2.46	2.54	1.67	2.82
At school average	0.80	1.44	1.99	1.92	2.20
Below school average	1.08	1.60	1.68	2.70	2.86
Mixed	0.77	1.46	1.52	1.47	1.72
Teacher characteristics					
Teaching experience[3]					
1–4 years	0.51	1.18	1.18	1.34	1.68
5–10 years	1.02	1.63	1.54	1.71	2.47
11–20 years	0.60	1.24	1.49	1.61	1.67
21 years or more	0.59	1.37	1.64	1.83	1.68
Highest earned degree[3]					
BA/BS or less	0.47	1.00	0.97	1.38	1.38
MA/MS	0.52	1.20	1.54	1.50	1.76
More than MA/MS	1.97	2.27	3.59	3.40	5.16
Professional development on assessment[3]					
Yes	0.48	1.02	1.16	1.40	1.63
No	0.54	1.20	1.22	1.01	1.41
Professional development on content[3]					
Yes	0.67	1.32	1.48	1.58	1.89
No	0.43	0.80	0.90	1.04	1.23
Professional development on cooperative learning[3]					
Yes	0.41	0.83	1.13	1.34	1.81
No	0.47	1.16	1.20	1.27	1.40
Professional development on education technology[3]					
Yes	0.58	1.22	1.24	1.32	1.81
No	0.40	0.99	1.10	1.33	1.27

Table B11—Standard errors for tables 11 and A11: Percentage of teachers who considered various aspects of student performance very or extremely important in determining student grades or formal progress reports, by subject area and selected class, school, and teacher characteristics: 1993–94 and 1994–95—Continued

Selected characteristics	Effort	Individual improvement	Achievement relative to class	Absolute achievement	Portfolio items
Professional development on methods[4]					
Yes	0.47	1.01	1.16	1.20	1.34
No	0.69	1.00	1.39	1.44	1.37

[1]Teachers in Bureau of Indian Affairs or tribal schools, less than 1 percent of teachers, are included in total estimates but not in public or private school estimates.

[2]The data regarding the school characteristics were collected in the 1993–94 SASS School Questionnaire. The data in these rows reflect the responses of teachers who did not change schools between 1993–94 and 1994–95. Therefore, these characteristics are likely to be similar or are identical over the 2 years. See the technical notes for further details on variable construction.

[3]The data regarding teachers' characteristics were collected in the 1993–94 SASS Teacher Questionnaire. See the technical notes for further details on variable construction.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B12—Standard errors for figure 1: Percentage distribution of teachers according to grade level of their designated class: 1994–95

	K–3 (Primary)	4–6 (Intermediate)	7–8 (Middle/junior high school)	9–12 (High school)	Mixed	Special education
Total	0.86	0.68	0.57	0.67	0.58	0.81

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Table B13—Standard errors for figure 4: Percentage of teachers who used various numbers of instructional practices recommended by curriculum standards in their subject areas, by subject area of designated class: 1994–95

Subject area	Used 0 or more	1 or more	2 or more	3 or more	4 or more	5 or more	6 or more	7 or more	8 or more	9 or more	10 or more	11 or more	12 or more	13 or more	14 or more
English	0.00	0.00	0.25	0.86	1.24	2.14	2.56	3.28	3.08	3.37	3.04	2.63	1.39	0.00	(*)
Mathematics	0.00	0.01	1.00	1.07	1.50	2.14	2.43	3.67	3.93	4.23	4.45	3.88	2.87	1.39	(*)
Science	0.00	0.00	0.00	0.00	0.31	0.99	1.62	2.59	2.94	3.40	3.68	4.35	3.61	3.46	1.79
Social studies	0.00	0.00	0.00	1.58	2.21	2.60	2.75	3.47	3.92	4.68	4.70	4.30	3.43	1.91	(*)

—Too few cases for a reliable estimate.

*Twelve practices were identified for English and 13 practices were identified for mathematics and social studies.

NOTE: Teachers responded to the survey items on instructional practices in terms of a "designated class" of students for whom they had primary responsibility during the previous semester or grading period. For teachers who were responsible for a single group of students all day, that group was the designated class. For teachers who were responsible for multiple classes or groups of students each day, their first instructional class or group of the day was the designated class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Table B14—Standard errors for figure 6: Percentage distribution of teachers according to their estimates of the academic ability of students in their designated class relative to the school average: 1994–95

	Above average	Average	Below average	Mixed
Total	0.71	1.18	0.89	1.28

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Table B15—Standard errors for figure 8: Percentage distribution of public school teachers according to proportion of students in their schools who received free or reduced-price lunch: 1993–94 and 1994–95, and standard errors for percentage distribution of teachers by sector

	Free or reduced-price lunch recipients in public school				Teachers by sector		
	0–5 percent	6–20 percent	21–40 percent	More than 40 percent	Public	Private	Indian
Total	0.76	1.14	1.28	1.01	0.19	0.18	0.12

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B16—Standard errors for figure 9: Percentage of teachers whose designated classes were bilingual and percentage distribution of teachers according to limited English proficient (LEP) enrollment in their schools: 1993–94 and 1994–95

	Bilingual or ESL class	LEP enrollment		
		None	1–9	10 or more
Total	0.60	1.20	1.24	0.61

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B17—Standard errors for figure 11: Percentage distributions of teachers according to teaching experience and highest earned degree: 1993–94 and 1994–95

	Teaching experience				Highest earned degree		
	1–4 years	5–10 years	11–20 years	20 or more years	B.A./B.S. or less	M.A./M.S.	More than M.A./M.S.
Total	0.39	0.74	0.94	0.99	0.90	1.00	0.44

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Table B18—Standard errors for percentage of teachers who participated in professional development programs on various topics between summer 1993 and completing the 1994–95 questionnaire, reported in figures 12–15 and table 19: 1993–94 and 1994–95

	Assessment	Content	Cooperative learning	Education technology	Teaching methods
Total	0.86	0.87	1.04	0.96	0.98

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey: 1993–94 (School and Teacher Questionnaires) and Teacher Follow-up Survey: 1994–95.

Appendix C—Technical Notes and Methodology

This section provides information regarding the data and methods used in this report. Topics include the sample of survey respondents whose data were analyzed, the survey items from which the variables used in this report were constructed, the software used to generate estimates and compute variance, the statistical procedures used to analyze the data, and the definitions of the variables used in these analyses.

Overview of Surveys

The 1994–95 Teacher Follow-up Survey (TFS) was sponsored by the National Center for Education Statistics (NCES) of the U.S. Department of Education to update information on teacher attrition and career patterns. The U.S. Bureau of the Census collected and processed the data.

The TFS is a survey of elementary and secondary school teachers who participated in the Schools and Staffing Survey (SASS)[15] and is conducted in the school year following the SASS data collection. The sample for the 1994–95 TFS was selected from those teachers who participated in the 1993–94 SASS; it consisted of all who left teaching within the year after SASS was administered and a subsample of those who continued teaching.

Purpose of the Survey

The TFS is intended to accomplish the following objectives:

- Provide estimates of teacher attrition rates;
- Examine the characteristics of those who stay in the teaching profession and those who leave;
- Obtain data on occupations or other activities for those who leave teaching and career information for those who are still teaching;

[15]For a complete description of the 1993–94 School and Staffing Survey, see K. Gruber, C. Rohr, and S. Fondelier, *1993–94 Schools and Staffing Survey: Data File User's Manual, Volume I: Survey Documentation* (NCES 96-142-I) (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 1996).

- Update information on education, other training, and career plans; and
- Collect data on attitudes about the teaching profession and job satisfaction.

Congress, state education departments, federal agencies, private school associations, teacher associations, and educational organizations have used data from the 1988–89 and 1991–92 TFS surveys.

Periodicity of Survey

The TFS was conducted in the 1988–89, 1991–92, and 1994–95 school years (after the 1987–88, 1990–91, and 1993–94 administrations of SASS, respectively). NCES currently plans to conduct the next survey in the 2000–01 school year; it will collect data from a subsample of teachers who participate in the 1999–2000 SASS.

Target Populations

The target population for the 1994–95 TFS was the universe of elementary and secondary school teachers who taught in schools that had a first grade and/or higher in the United States during the 1993–94 school year. This population was divided into two components: those who left teaching after the 1993–94 school year (former teachers) and those who continued teaching (current teachers).

The following terms are used in this publication and are defined as they apply to TFS:

Teacher. A teacher is any full-time or part-time school staff member who teaches one or more regularly scheduled classes in any of grades K–12 (or comparable ungraded levels).[16] In addition to regular full-time teachers, the following types of teachers are also included: (1) itinerant teachers, (2) long-term substitutes who fill the role of a regular teacher on a long-term basis, (3) administrators, counselors, librarians, or other professional or support staff who teach any regularly scheduled classes, and (4) other part-time teachers.

Leavers. Leavers are teachers who left the teaching profession after the 1993–94 school year. Leavers were not included in the analyses presented in this publication.

[16]This definition was revised for the 1993–94 SASS and differs from the one used for previous administrations of SASS and TFS. In previous SASS and TFS surveys, a teacher was defined as a school staff member whose primary assignment was teaching in any of grades K–12 (or comparable ungraded levels). School staff whose primary assignment was something other than teaching were excluded, even if they taught some regularly scheduled classes.

Movers. Movers are teachers who were still teaching in the 1994–95 school year but had moved to a different school after the 1993–94 school year.

Stayers. Stayers are teachers who were teaching in the same school in the 1994–95 school year that they were in the 1993–94 school year.

Out-of-Scope TFS teachers. Teachers who left the United States or who died.

The following definitions were used in the 1993–94 SASS; they describe or pertain to variables included on each TFS respondent's record to identify the school where he/she taught during the 1993–94 school year. These definitions are also used in this publication.

Census region. The four Census regions include the 50 states and District of Columbia as follows:

Northeast—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania;

Midwest—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas;

South—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas; and

West—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, Hawaii.

Common Core of Data (CCD). The Common Core of Data (CCD) is a group of surveys that collect public elementary and secondary education data from the 50 states, the District of Columbia, and the U.S. territories (American Samoa, Guam, Puerto Rico, Virgin Islands, Northern Marianas). CCD is an annual survey that collects information about staff and students in public schools at the school, district, and state levels. Revenue and expenditure data are also collected at the state level.

Local education agency (LEA). LEAs, or public school districts, are government agencies that employ elementary or secondary teachers and are administratively responsible for providing public elementary/secondary instruction and educational support services. Included are education agencies that do not operate schools but employ teachers, e.g., regional cooperatives that employ special education teachers who teach in schools in more than one school district.

School, alternative. Alternative schools serve students whose needs cannot be met in a regular, special education, or vocational school. They provide nontraditional education and may serve as an adjunct to a regular school. They fall outside the categories of regular, special education, and vocational education, although they may provide similar services or curriculum. Some examples of alternative schools are those for potential dropouts, residential treatment centers for substance abuse (if they provide elementary or secondary education), and schools for chronic truants.

School, BIA. BIA schools are schools funded by the Bureau of Indian Affairs, U.S. Department of Interior. These schools may be operated by the BIA, a tribe, a private contractor, or an LEA (or school district).

School, combined. A combined school has one or more of grades K–6 and one or more of grades 9–12; for example, schools with grades K–12, 6–12, 6–9, or 1–12 are classified as combined schools. Schools in which all students are ungraded (i.e., not classified by standard grade levels) are also classified as combined.

School, elementary. A school is classified as elementary if it has no ungraded students, one or more of grades 1–6, and no grade higher than grade 8; or ungraded students, and no grade higher than grade 8. Examples of elementary schools include schools with grades K–6, 1–3, or 6–8.

School, private. A private school is a school that is not supported primarily by public funds (i.e., it is not a public school). It must provide instruction for one or more of grades 1 through 12 (or comparable ungraded levels), have one or more teachers, and be located in a building that is not used primarily as a private home. Organizations or institutions that provide support for home schooling but do not offer classroom instruction for students are not included.

School, public. A public school is an institution that provides educational services for at least one of grades 1 through 12 (or comparable ungraded levels), has one or more teachers, is located in one or more buildings, and is supported primarily by public funds. State schools (e.g., schools for the deaf or the blind), schools in juvenile detention centers, and schools located on military bases and operated by the Department of Defense are included.

School, secondary. A school is classified as secondary if it has one or more of grades 7–12 and does not have any grades lower than grade 7, or has no ungraded students and no students in grades K–6. For example, schools with grades 9–12, 7–8, 10–12, or 7–9 are classified as secondary schools.

School, special education. Special education schools provide educational services to students with special physical or mental needs, i.e., students with mental disabilities (such as mental retardation or autism), physical disabilities (such as hearing impairment), or learning disabilities (such as dyslexia).

School, vocational. Vocational schools primarily serve students who are being trained for semi-skilled or technical occupations.

Typology, private school. Private schools were assigned to one of three major categories and, within each major category, one of three subcategories. The categories and subcategories are as follows:

- Catholic—(1) parochial, (2) diocesan, and (3) private;
- Other religious—(4) affiliated with a conservative Christian school association, (5) affiliated with a national denomination, and (6) unaffiliated; and
- Nonsectarian—(7) regular, (8) special program emphasis, and (9) special education.[17]

Teacher, itinerant. An itinerant teacher teaches at more than one school, e.g., a music teacher who teaches three days per week at one school and two days per week at another.

Ungraded students. Ungraded students are those who are not assigned to a particular grade level (kindergarten, first grade, second grade, etc.); for example, special education centers and alternative schools often classify their students as ungraded. Students in Montessori schools are also considered ungraded if the school assigns them to "primary" and "intermediate" levels instead of specific grades.

Sample Design

SASS Sampling Frames

Public Schools

The public school sampling frame was based on the 1991–92 school year Common Core of Data (CCD). The CCD is collected annually by NCES from all state education agencies and is believed to be the most complete public school listing available. The frame includes regular

[17]See M. McMillen and P. Benson, *Diversity of Private Schools,* Technical Report (NCES 92-082) (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1991).

public schools, some schools on Department of Defense military bases, and nonregular schools such as special education, vocational, and alternative schools. The frame also included 176 Bureau of Indian Affairs (BIA) schools.

Private Schools

The sampling frame for private schools was the 1991–92 Private School Survey (PSS).[18] This data collection used two components to develop estimates of the number of private schools in the United States. A list frame was the primary private school frame, and an area frame was used to identify schools not on the list frame, thereby compensating for the undercoverage of the list frame.

List Frame

The list frame used for the 1993–94 SASS private school sample was the same list used for the 1991–92 PSS. It consisted of approximately 25,051 schools from the PSS universe, which was updated in the spring of 1993 by using lists from 24 private school associations.

Area Frame

The SASS area frame consisted of a list of private schools that had not been included on the PSS universe and had not been reported by private school associations during the list frame updating operation. These schools were located in 123 selected PSUs[19] throughout the United States.

For more information, see the technical report *1993–94 Schools and Staffing Survey: Sample Design and Estimation,* by R. Abramson, C. Cole, S. Fondelier, B. Jackson, R. Parmer, and S. Kaufman (NCES 96–089).

Duplicate schools, as well as schools that did not meet the criteria for being in-scope for the survey (e.g., adult education centers, schools where the highest grade was prekindergarten or kindergarten, and tutoring services), were eliminated from the files before sampling. The resulting number of public schools on the 1993–94 public school frame was 82,746 (9,956 were sampled); the resulting number of private schools on the 1993–94 private school universe was 25,051 (3,315 were sampled). The list frame sample for 1993–94 SASS consisted of 3,162 schools.

[18]U.S. Department of Education, National Center for Education Statistics, *Private School Universe Survey: 1991–92* (E. Gerald, M. McMillen, and S. Kaufman) (NCES 94-350).

[19]A PSU is a primary sample unit, which is a geographic area consisting of one or more contiguous counties or an independent city.

Additional duplicate private schools were discovered on the PSS after sampling had taken place; these schools received a weighting adjustment to account for their increased probability of selection. Additional out-of-scope public and private schools were detected after processing the SASS school questionnaires of the sample schools. These schools were eliminated from further processing of the school samples and are not part of any SASS estimates of the number of schools.

SASS Stratification

Public Schools

The first level of stratification divided the universe of public schools into four types: (A) Bureau of Indian Affairs (BIA) schools; (B) Native American schools (schools with 19.5 percent or more Native American students); (C) schools in Delaware, Nevada, and West Virginia (where it was necessary to implement a different sampling methodology to select at least one school from each Local Education Agency (LEA) in the state because of the small number of LEAs); and (D) all other schools (i.e., all schools not included in A, B, or C).

For the second level of stratification, the type B schools were stratified by Arizona, California, Montana, New Mexico, Washington, and all other states (except Alaska, since most Alaskan schools have high Native American enrollment). The type C schools were stratified first by state and then by LEA. The type D schools were stratified by state (all states and the District of Columbia, except Delaware, Nevada, and West Virginia).

Within each second level of stratification, regular schools were divided into three grade level strata (elementary, secondary, and combined schools), defined as follows:

- Elementary—Lowest grade $\leq$ 6 and highest grade $\leq$ 8
- Secondary—Lowest grade $\geq$7 and highest grade $\leq$ 12
- Combined—Lowest grade $\leq$ 6 and highest grade > 8

Nonregular schools such as special education, vocational, technical, adult education (if part of in-scope school) or alternative/continuation schools were classified as combined schools.

Private Schools

For list frame private schools, the frame was partitioned into an initial set of 228 cells. The first level of stratification was defined by school association membership as follows:

(1) Military—membership in the Association of American Military Colleges and Schools;

(2) Catholic—affiliation as Catholic or membership in the National Catholic Educational Association or the Jesuit Secondary Education Association;

(3) Friends—affiliation as Friends or membership in the Friends Council on Education;

(4) Episcopal—affiliation as Episcopal or membership in the National Association of Episcopal Schools;

(5) Hebrew Day—membership in the National Society for Hebrew Day Schools;

(6) Solomon Schechter—membership in the Solomon Schechter Day Schools;

(7) Other Jewish—other Jewish affiliation;

(8) Missouri Synod—membership in the Lutheran Church, Missouri Synod school association;

(9) Wisconsin Synod—membership in the Evangelical Lutheran Church—Wisconsin Synod school association or affiliation as Evangelical Lutheran—Wisconsin Synod;

(10) Evangelical Lutheran—membership in the Association of Evangelical Lutheran Churches school association or affiliation as Evangelical Lutheran Church in America;

(11) Other Lutheran—other Lutheran affiliation;

(12) Seventh-Day Adventist—affiliation as Seventh-Day Adventist or membership in the General Conference of the Seventh-Day Adventist Church;

(13) Christian Schools International—membership in Christian Schools International;

(14) American Association of Christian Schools—membership in the American Association of Christian Schools;

(15) National Association of Private Schools for Exceptional Children—membership in the National Association of Private Schools for Exceptional Children;

(16) Montessori—membership in the American Montessori Society or other Montessori association;

(17) National Association of Independent Schools—member of the National Association of Independent Schools;

(18) National Independent Private School Association—member of the National Independent Private Schools;

(19) All else—member of any other association specified in the PSS or affiliated with a group not listed above or not a member of any association.

Within each association membership category, schools were stratified by grade level (elementary, secondary, or combined). Within association/grade level category, schools were stratified by four Census regions (Northeast, Midwest, South, or West).

TFS Stratification and Sample Allocation

The 1994–95 TFS is a survey of approximately 7,200 teachers interviewed in the 1993–94 SASS Teacher Survey. As described earlier, the purpose of the 1994–95 TFS was to measure teacher attrition rates one year after the 1993–94 SASS data collection. In SASS, schools were selected first. Next, teachers were selected within each sampled school. The TFS teachers were selected from the SASS teacher sample. The TFS sample is a stratified sample that was allocated to allow comparisons of stayers, movers, and leavers within sector (public/private), experience groups, and level. Therefore, for the 1994–95 TFS, the responding 1993–94 SASS teachers were stratified by four variables (sector, teacher status, experience, teaching level) in the order shown:

Sector (Public/Private School Indicator)

- Public—teachers who taught in a public school system in the 1993–94 school year;
- Private—teachers who taught in a private school in the 1993–94 school year.

Teacher Status

- Leavers—teachers in the 1993–94 school year who left the teaching profession prior to the 1994–95 school year;
- Stayers—teachers in the 1993–94 school year who were still teaching in the same school in the 1994–95 school year as they were in the previous school year;
- Movers—teachers in the 1993–94 school year who were still teaching in 1994–95, but who were in a different school in the 1994–95 school year;
- Don't know—teachers whose status was unknown (or was not reported) in 1994–95 by staff at the school in which they taught in 1993–94.

Experience (New/Experienced Teacher Indicator)

- New—teachers who had three years' or less teaching experience at the end of the 1993–94 school year;
- Experienced—teachers who had more than three years of experience at the end of the 1993–94 school year.

Teacher status and teaching experience was defined by the school.

Teaching Level

- Elementary—teachers who taught elementary students in the 1993–94 school year regardless of the level of the school (elementary, secondary, or combined) in which they taught;
- Secondary—teachers who taught secondary students in the 1993–94 school year regardless of the level of the school (elementary, secondary, or combined) in which they taught.

The final TFS sample allocation is summarized in table C1.

Table C1—Teacher Follow-up Survey sample allocation*

	Total	New	Experienced
Public	5,075	1,682	3,393
Leavers			
Total	2,035	294	1,741
Elementary	697	109	588
Secondary	1,338	185	1,153
Nonleavers	3,040	1,388	1,652
Elementary			
Total	1,624	692	932
Movers	700	364	336
Stayers	924	328	596
Secondary			
Total	1,416	696	720
Movers	664	438	226
Stayers	752	258	494
Private	2,097	838	1,259
Leavers			
Total	641	223	418
Elementary	343	119	224
Secondary	298	104	194
Nonleavers	1,456	615	841
Elementary			
Total	833	349	484
Movers	290	112	178
Stayers	543	237	306
Secondary			
Total	623	266	357
Movers	209	86	123
Stayers	414	180	234

*"Don't know" strata cases are included in the "stayer" categories of this table.

SOURCE: Whitener et al. 1997. *Characteristics of Stayers, Movers, and Leavers.* Washington, D.C.: NCES.

SASS Sample Selection

Public Schools

Before the sample of public schools was selected, the schools within each stratum were sorted. To facilitate the calculation of LEA weights, it was important to keep all schools within a stratum and LEA together. To accomplish this, the first three digits of the ZIP code of all schools within a stratum and LEA were set equal to those of the first school in the stratum and LEA.

After the ZIP code was recoded, non-BIA[20] schools within each stratum were sorted by state; LEA metro status; recoded LEA ZIP Code (the first three digits); CCD LEA ID number; school enrollment; and CCD school ID. Within each stratum, non-BIA schools were systematically selected using a probability proportionate to size algorithm. This selection process produced a sample of 9,780 non-BIA public schools.

Private Schools

Within each stratum, private schools in the list frame were sorted on state; highest grade in school; urbanicity; ZIP Code (the first two digits); 1991–92 PSS enrollment; and a unique number that identifies the school on the PSS. Within each stratum, private schools in the list frame were systematically selected using a probability proportionate to size algorithm.

Teachers

The public and private teacher sample selections are described together because identical methodologies were used. The only differences were in the average number of teachers selected within a school. Selecting the teacher sample in both public and private schools involved the following steps:

- The selected schools were asked to provide teacher lists;
- From the lists, 56,736 public school teachers and 11,548 private school teachers were selected.

Teacher Frame

Each selected school was asked to provide a list of their teachers with selected information for each teacher. Nine percent of the private schools and 4 percent of the public schools did not

[20]BIA schools were not sorted since they were designated to be in sample with certainty. All 176 BIA schools were in the 1993–94 SASS school sample.

provide teacher lists. A factor in the teacher weighting system was used to adjust for these nonparticipant schools. The sample schools were asked to provide the following information for each teacher listed: experience level, race–ethnicity, whether taught bilingual or ESL class,[21] and main subject taught. This information for each teacher in a selected SASS school made up the school teacher frame.

Within each selected school, teachers were stratified into one of five teacher types in the following hierarchical order: (1) Asian or Pacific Islander (API); (2) American Indian or Aleutian or Eskimo (AIAE); (3) Bilingual/ESL; (4) New (3 or fewer years of teaching experience); and (5) Experienced (more than 3 years of experience).

Within-School Teacher Allocation

In the private sector, it was decided to oversample new teachers to ensure that there would be a sufficient sample of new teachers in the TFS. (This was also done in 1990–91 SASS.) In addition, Asian or Pacific Islander, American Indian or Aleutian or Eskimo, and bilingual teachers were oversampled at a rate to ensure a set number of each group was selected. Within each teacher stratum, secondary teachers were sorted by teacher's main subject taught (as reported by the principal on the SASS Teacher List); and elementary teachers were sorted by general elementary, special education, or other teaching assignment. When combined schools had both elementary and secondary teachers, the teachers were sorted by grade level/main subject taught. This method was used to assure a good distribution of teachers by main subject taught.

Within each school and teacher stratum, teachers were selected systematically with equal probability. A total of 68,284 teachers were selected for SASS (62,770 new and experienced; 1,735 Asian or Pacific Islander; 1,661 American Indian or Aleutian or Eskimo; and 2,118 bilingual/ESL).

TFS Sample Selection

Within each public TFS stratum, teachers who responded to the 1993–94 SASS Teacher Survey were sorted by teacher subject, Census region, urbanicity, school enrollment, and SASS teacher control number. Within each private TFS stratum, responding teachers were sorted by teacher subject, association membership (list frame), affiliation (area frame), urbanicity, school enrollment, and SASS teacher control number. After they were sorted, teachers were selected within each stratum using a probability proportional to size sampling procedure.

[21]In bilingual classes, subject matter (science, mathematics, social studies, etc.) is taught using a language other than English. In ESL classes, English is taught to students whose primary language is not English.

A total of 5,025 public school teachers, 2,098 private school teachers, and 50 Bureau of Indian Affairs (BIA) school teachers were selected. Of these 7,173 teachers, 6,323 (4,528, 1,751, and 44, respectively) were interviewed. Slightly more than one-third of TFS:94–95 respondents, 2,329 of them, had left the teaching profession and therefore were not asked questions about their instruction. For the purpose of this report, the analyses excluded a small sample of the remaining 3,994 teachers: those who reported that prekindergarten students were in their designated classes, that "prekindergarten" was the subject area of the designated class were not included or that they had no K–12 or ungraded students, resulting in a sample of 3,894 K–12 teachers. This sample, and therefore the estimates derived from it, differ slightly from that used in the analyses presented in *America's Teachers: Profile of a Profession, 1993–94* (Henke et al. 1997) in that the *America's Teachers* sample excluded teachers in BIA and tribal schools and selected teachers based on their 1993–94 grade levels and main assignment fields.

Data Collection

Time Frame of the Survey

The Bureau of the Census collected the 1994–95 TFS data during the 1994–95 school year. Table C2 summarizes the specific data collection activities and the time frame in which each occurred.

Table C2—Data collection time schedule

Activity	Month of activity
Advance letters mailed to LEAs and state administrators	August 94
Teacher Status Forms (TFS-1) and letters mailed to sample	September 94
Reminder postcards mailed to sample schools	September 94
Telephone follow-up of Teacher Status Forms not returned	October/November 94
Initial mailing of leaver/stayer questionnaires (TFS-2 and TFS-3)	January 95
Second mailing of leaver/stayer questionnaires (TFS-2 and TFS-3)	February 95
Telephone follow-up of mail questionnaire nonrespondents	March/May 95

SOURCE: Whitener et al. 1997. *Characteristics of Stayers, Movers, and Leavers.* Washington, D.C.: NCES.

Data Collection Procedures

The U.S. Bureau of the Census collected TFS data in two phases. Phase 1 began in September 1994 when the Census Bureau mailed teacher status forms (TFS-1) to schools that had provided lists of teachers for 1993–94 SASS. On this form, the school principal (or other

knowledgeable school staff member) was asked to report the current occupational status of each teacher who participated in the 1993–94 SASS, by indicating whether he/she was still at the school in a teaching or nonteaching capacity, or had left the school to teach elsewhere or for a nonteaching occupation. Nonresponding schools were sent postcards and telephoned.

Phase 2 began in January 1995 when the TFS questionnaires were mailed to selected teachers and former teachers. The Questionnaire for Former Teachers (TFS-2) was sent to sample persons reported by school administrators as having left the teaching profession. The Questionnaire for Current Teachers (TFS-3) was sent to sample persons who were reported as still teaching at the elementary or secondary level. Nonresponding teachers were sent postcards and telephoned. Telephone follow-up of nonrespondents ended in May 1995.

Edit Procedures

Clerical Edit

Questionnaires returned by individual respondents and those completed by Census interviewers during telephone follow-up were sent to the Census Bureau processing center in Jeffersonville, Indiana. Upon receipt, clerks assigned codes to each questionnaire to indicate its status (e.g., complete interview, refusal, deceased). After clerks performed a general clerical edit, the questionnaires were batched by type and interview status (i.e., interviews, noninterviews, out-of-scope for survey) for data keying. To assure the quality of the data, all keying was independently verified at the 100 percent level.

Preliminary ISR Classification

After keying data, the next step in processing was to make a preliminary determination of each case's interview status (ISR), i.e., whether it was an interview, a noninterview, or out-of-scope for the survey. Cases with data entries were classified as interviews (ISR=1) and those with no data were classified as noninterviews (ISR=2).

Computer Edit

After the assignment of the preliminary ISR code, the file was divided into two files: (1) former teachers (leavers), and (2) current teachers (stayers and movers). Then these files were submitted to a computer edit that consisted of a range check, a consistency edit, and a blanking edit. The range check deleted entries that were outside the range of acceptable values. The consistency edit identified inconsistent entries within each record and, whenever possible, corrected

them; if they could not be corrected, the entries were deleted. The blanking edit deleted extraneous entries and assigned the "not answered" (.N) code to items that should have been answered but were not.

Final Interview Status Edit

After the range check, consistency edit, and blanking edit were completed, the records were edited to determine whether the case was eligible for inclusion in the survey and, if so, whether sufficient data had been collected for the case to be classified as an interview. An interview status recode (ISR) value was then assigned to each case as a result of this edit.

Response Rates

Survey Response Rates

Table C3 summarizes the weighted and unweighted response rates for the TFS (shown in percentages).

Table C3—Response rates, by sector and teaching status, unweighted and weighted

Sampled teachers	Unweighted	Weighted
Public	90.7	92.3
Current teachers	90.9	92.5
Former teachers	90.5	89.2
Private	84.1	87.2
Current teachers	83.5	87.2
Former teachers	85.5	87.6
BIA	88.0	99.5
Current teachers	95.5	99.9
Former teachers	82.1	88.9
Total	88.8	91.6
Current teachers	88.6	91.8
Former teachers	89.1	88.8

SOURCE: Whitener et al. 1997. *Characteristics of Stayers, Movers, and Leavers.* Washington, D.C.: NCES.

A cumulative overall response rate is the product of the survey response rates shown in table C4: (SASS Teacher List response rate), (SASS Teacher Survey response rate), and (TFS Teacher response rate). The cumulative overall response rates by sector and teacher status for the 1994–95 TFS are as follows:

Public current teachers: (.95)(.882)(.925)(100)=80.0.

Public former teachers: (.95)(.882)(.892)(100)=74.7.

Private current teachers: (.91)(.832)(.872)(100)=66.0.

Private former teachers: (.91)(.832)(.876)(100)=66.3.

Table C4—Survey response rates for SASS Teacher List, 1993–94 Schools and Staffing Teacher Survey, and 1994–95 Teacher Follow-up Survey, weighted

	Sector			
	Public		Private	
	Current Teachers[1]	Former Teachers	Current Teachers	Former Teachers
SASS Teacher List response rate[2]	95.0		91.0	
SASS Teacher Survey response rate[3]	88.2[4]		80.2[5]	
Teacher Followup Survey response rate[6]	92.5	89.2	87.2	87.6

[1]Includes stayers and movers.

[2]Percentage of schools providing teacher lists for the 1993–94 SASS sample, weighted.

[3]Percentage of eligible sample teachers responding to the 1993–94 SASS Teacher Survey, unweighted.

[4]This rate does not include the 5 percent of the public schools that did not provide teacher lists.

[5]This rate does not include the 9 percent of the private schools that did not provide teacher lists.

[6]Percentage of eligible sample teachers responding to the 1994–95 Teacher Follow-up Survey, weighted.

SOURCE: Whitener et al. 1997. *Characteristics of Stayers, Movers, and Leavers.* Washington, D.C.: NCES.

Item Response Rates

Table C5 is a brief summary of the unweighted item response rates for the 1994–95 TFS questionnaires. A response rate for an item is defined as the number of records with valid responses to that item divided by the number of eligible respondents for the item.

Imputation

For questionnaire items that should have been answered but were not, values were imputed by using data from (1) other items on the questionnaire; (2) the 1993–94 SASS Teacher Survey

Table C5—Summary of unweighted item response rates

	Former teachers	Current teachers
Range of item response rates	78–100 percent	52–99 percent
Percentage of items with a response rate of 90 percent or more	92.6 percent	90.4 percent
Percentage of items with a response rate less than 80 percent	1.2 percent	4.1 percent
Items* with a response rate less than 80 percent	7.0	9b, 9c, 48i, 51a(1), 51a(2), 51a(3), 51b(3), 51b(4), 57b

*The questionnaire wording for these items can be found in appendix D of this publication.

SOURCE: Whitener et al. 1997. *Characteristics of Stayers, Movers, and Leavers.* Washington, D.C.: NCES.

record for the same respondent; and (3) data from the record for a respondent with similar characteristics (commonly known as the nearest-neighbor "hotdeck" method for imputing for item nonresponse).[22]

For some incomplete items, the entry from another part of the questionnaire, the SASS Teacher Survey record, or the data record for a similar case was directly imputed to complete the item; for others, the entry was used as part of an adjustment factor with other data on the incomplete record.

The procedures described above were carried out by computer processing. However, for a few items there were cases where entries were clerically imputed. The data record, SASS teacher file record, and in some cases, the questionnaire were reviewed and an entry consistent with the information from those sources was imputed. This procedure was used when (1) there was not suitable record to use as a donor, (2) the computer method produced an entry that was outside the acceptable range for the item, or (3) there were very few cases where an item was unanswered (usually less than 10).

[22]G. Kalton and D. Kasprzyk, "Imputing for Missing Survey Responses" (proceedings of the Section on Survey Research Methods, American Statistical Association, Alexandria, VA, 1982), 22–31; G. Kalton, *Compensating for Missing Survey Data* (Ann Arbor, MI: Survey Research Center, University of Michigan, 1983); G. Kalton and D. Kasprzyk, "The Treatment of Missing Survey Data," *Survey Methodology* 12 (1) (1986): 1–16; R.J.A. Little and D.B. Rubin, *Statistical Analysis with Missing Data* (John Wiley and Sons, 1987); W.G. Madow, I. Olkin, and D.B. Rubin, eds., *Incomplete Data in Sample Surveys*, Vols. 1, 2, and 3 (New York: Academic Press, 1983).

Values were imputed to items with missing data within records classified as interviews (ISR=1). Noninterview adjustment factors were used during the weighting process to compensate for data missing because the sample person was a noninterview (ISR=2).

Entries imputed to TFS records are identified by flags that denote the stage or type of imputation: 1 = ratio adjustment of original entry; 2 = entry was imputed by using other data on the record or from the SASS teacher file; 3 = entry was imputed by using data from the record for a similar sample person (donor); 4 = clerical imputation; and 0 = not imputed.

The variable names for these flags are F_ (variable name), where variable name is the variable name for the data entry—e.g., F_TFS012 is the imputation flag for variable TFS012 (item 6 of the TFS-2).

Weighting

SASS Teacher Weights

The SASS teacher basic weight is the inverse of the probability of selection of the teacher. Teacher basic weights were adjusted to account for schools that refused to provide lists of teachers (school nonresponse adjustment factor), and for teachers who were selected for the survey but did not provide questionnaire data (teacher noninterview factor). In addition, the school sampling adjustment factor and the first-stage ratio adjustment factor were also applied to produce the final weight.

- The **school sampling adjustment factor** was applied to certain schools to account for duplicate records, merged schools, or any other circumstance that would affect the school's true probability of selection.
- The **school nonresponse adjustment factor** was calculated to compensate for schools that refused to provide lists of their teachers.
- The **first stage ratio adjustment factor** adjusted the sample weighted count of all cases (interviewed, noninterview, and out-of-scope) to known frame totals. For public schools, the frame totals such as grade level by urbanicity by state came from the 1991–92 CCD. For private schools on the list frame, the updated private school list frame universe was the source of totals such as grade level by association membership.

TFS Teacher Weights

The final TFS sample weight equals the following computation:

TFS basic weight x SASS weighting adjustment factor x TFS noninterview adjustment x TFS ratio adjustment

where:

- The **TFS basic weight** is the inverse of the probability of selecting a teacher for TFS. This weight is the product of the intermediate teacher weight from SASS (described in previous section) and TFS subsampling adjustment factor. The TFS subsampling adjustment factor accounts for the subsampling of teachers from SASS sample teachers.
- The **SASS weighting adjustment factor** adjusts for the fact that preliminary SASS final weights were used in computing the TFS basic weight. The weighting adjustment factor adjusts for any changes that may have occurred between the preliminary and final weighting calculations.
- The **TFS noninterview adjustment** factor adjusts for teachers who participated in SASS but did not participate in the 1994–95 TFS.
- The **TFS ratio adjustment factor** adjusts the TFS sample totals to known SASS sample totals. This adjustment ensures that the weighted number of (interviews, noninterviews, and out-of-scopes) will equal the weighted number of SASS teachers from 1993–94.

Variance Estimation

The statistics in this report were estimates derived from a sample rather than a population. Two broad categories of errors are associated with such estimates: nonsampling and sampling errors. Nonsampling errors occur not only in sample surveys but also in complete censuses of entire populations. A number of sources contribute to nonsampling errors: for example, members of the population of interest are inadvertently excluded from the sampling frame; sampled members refuse to answer some of the survey questions (item nonresponse) or all of the survey questions (questionnaire nonresponse); mistakes are made during data editing, coding, or entry; the responses that subjects provide differ from the "true" responses; or measurement instruments such as tests or questionnaires fail to measure the characteristics they are intended to measure. While survey researchers can and often do use sample weights and imputation procedures to reduce errors due to questionnaire and item nonresponse, correcting nonsampling errors or estimating the severity of these errors is usually difficult.

Sampling errors occur because observations are made on samples rather than entire populations. A survey of population universe (that is, a census or survey of all members of a population) results in an estimate of the population value that is compromised only by the nonsampling

errors discussed above. If the measures and execution were perfect, the survey would perfectly describe the population in terms of the measured characteristics.

In contrast, estimates based on a sample will differ somewhat from those obtained by a complete census of the relevant population using the same measures and procedures. The degree to which the sample estimate differs from the population value depends a great deal on the size of the sample: the larger the sample, the fewer population members that were excluded from it and the more accurate the sample estimate. To assess the accuracy of an estimate, researchers estimate its variance due to sampling by computing a statistic known as the *standard error*. The remainder of this section describes the variance estimation procedure used to compute standard errors with the SASS and TFS.

As described above, the sample designs for the SASS and TFS involve stratification and clustering, which necessitates different variance estimation procedures than those used with simple random samples. The previous SASS surveys (1987–88 and 1991–92) used the variance estimation procedure known as balanced half-sample replication (BHR). A fundamental problem with BHR is that it assumes sampling is done with replacement, hence BHR cannot reflect the increase in precision due to sampling a large proportion of a finite population. For most surveys, where the sampling rates are small, the increase in precision will be small and can be safely ignored. However, in SASS, the public surveys (school, principal, teacher, library, and librarian) are designed for reliable state estimates. This necessarily implies large sampling rates, which can lead to very large variance overestimates with BHR. Likewise, some of the private surveys (school, principal, and teacher) are designed to produce detailed private association estimates, which also imply large sampling rates, and variance overestimation with BHR.

To overcome this problem, a bootstrap variance estimator was implemented for the 1993–94 SASS. The bootstrap variance reflects the increase in precision due to large sampling rates.

The idea behind bootstrap variance estimation is to use the distribution of the sample weights to generate a bootstrap frame.[23] Bootstrap samples can be selected from the bootstrap frame, replicate weights computed, and variances estimated with standard BHR software. The

[23]For more information about bootstrap variance methodology and how it applies to SASS and TFS, see B. Efron, *The Jacknife, the Bootstrap and Other Resampling Plans*, SIAM, No. 38 (1982); S. Kaufman, "Balanced Half-sampled Replication with Aggregation Units" (proceedings of the Section on Survey Research Methods, American Statistical Association, Alexandria, VA, 1992); S. Kaufman, "A Bootstrap Variance Estimator for the Schools and Staffing Survey" (proceedings of the Section on Survey Research Methods, American Statistical Association, Alexandria, VA, 1993); S. Kaufman, "Properties of the Schools and Staffing Survey's Bootstrap Variance Estimator" (proceedings of the Section on Survey Research Methods, American Statistical Association, Alexandria, VA, 1994); R.R. Sitter, "Comparing Three Bootstrap Methods for Survey Data," Technical Report Series of the Laboratory for Research in Statistics and Probability (Carleton University, 1990).

bootstrap replicate basic weights (inverse of the probability of selection) were subsequently reweighted by processing each set of replicate basic weights through the full-sample weighting procedure.

Further analysis of the bootstrap replicate basic weights revealed that approximately 6 percent of SASS school replicate weights fell outside a 95 percent confidence interval. This is only slightly higher than the expected 5 percent and indicates the bootstrap replicate weights are close to normally distributed.

Public Schools and Principals

The SASS public school data files contain a set of 48 bootstrap weights, which can be used with any BHR software package. If the package requires specifying a variance methodology, BHR can be specified. At this point, variance computation is similar to the previous SASS and TFS rounds. The difference is in the use of bootstrap methods to produce the replicate weights. Public school principal replicate weights are the same as the school replicate weights.

Private Schools

For private schools, the list frame used the bootstrap methodology as described above. For the area frame, the PSU sampling rates were very small, negating the advantage of using bootstrap.

BHR methodology was employed in the area frame as it has been for all previous administrations of SASS. Half-samples are defined by pairing sample PSUs within each sampling stratum, forming variance strata. The final product is a set of 48 replicate weights. After the variance strata were assigned, an orthogonal matrix was used to form the 48 balanced half-sample replicates. Thus, the same methodology can be applied to both the list frame and the area frame replicate weights to compute variances.

Teacher Replicates

The teacher replicate weights are generally equal to the school bootstrap replicate weights times the inverse of the conditional probability of selection of the teacher given the school was selected in the SASS school sample. These adjusted bootstrap replicate weights are provided on the file. BHR methodology was employed rather than bootstrap in two instances. First, if a school was selected with certainty and, subsequently, teachers were not sampled with certainty, no

bootstrap replicate weights were available, so records were sorted by school stratum, order of selection, and control number, and then assigned variance stratum and panel.

The second instance was in the private area frame. These teacher sample records were assigned replicate weights by multiplying the school BHR replicate weights by the teacher's conditional probability of selection given the school was selected in the SASS school sample.

TFS Teachers

Since the TFS sample was a proper subsample of the SASS teacher sample, the SASS teacher replicates were used for the TFS sample. The TFS basic weight for each TFS teacher was multiplied by each of the 48 SASS replicate weights divided by the SASS teacher full-sample intermediate weight for that teacher. To calculate 48 replicate weights that should be used for variance calculations, these TFS replicate basic weights were processed through the remainder of the TFS weighting system.

A variance estimate is obtained by first calculating the estimate for each replicate, then summing the squared deviations of the replicate estimates from the full-sample estimate, and finally dividing by the number of replicates:

$$\sum (y_k - y)^2/48$$

where $k = 1, 2, ..., 48$,
y_k = kth replicate estimate, and
y = full sample estimate.

When calculating variance estimates for some small subdomains of interest (e.g., vocational education teachers), sparseness of the data may result in there being no data from some replicates. This can result in either an extremely large variance estimate or failure of the software used to calculate the variance, with possibly a warning message.

The estimates presented in this report were computed using a SAS procedure known as REPTAB. In addition, WESTAT, Inc. has developed a PC-based replication program, WesVarPC. WesVarPC is available on the World Wide Web. The URL for WESTAT, Inc. is http://www.westat.com. There is a link on the WESTAT home page to the WesVarPC home page. WesVarPC version 2.1, along with the documentation, is available for download at no charge.

Response Variance in the TFS

The Census Bureau conducted a reinterview study to study the response variance of selected items of the 1994–95 TFS. Of 1,387 reinterview sample members who were eligible for reinterview, 870 surveys were completed either by mail or telephone, for a reinterview response rate of 63 percent. The reinterview questionnaires were mailed so that respondents would receive them between 3 and 4 weeks after completing the first questionnaire. Responses to the reinterview and original questions were compared to determine response variance over the 3–4 week period. Questions for which response variance was high, that is, for which relatively many respondents' answers changed over time, are considered problematic: the validity of the data collected from these questions is uncertain. High response variance can occur because respondents find the question difficult to interpret, because the concept or phenomenon may be difficult or impossible to measure, or because respondents may not be able to provide as detailed a response as the question demands.

Response variance for categorical items is measured in terms of the index of inconsistency, which estimates the ratio of response variance to total variance for a given response. To develop an item-level measure of response variance, a measure that takes into account the response variance for all responses to a given item, an aggregate index of inconsistency is computed as well. The aggregate index is a weighted average of the indices for all responses to the item, where each index is weighted by the proportion of respondents that chose that response in both the original interview and the reinterview. Both the index and the aggregate index can be interpreted using the following rule of thumb:

- An index value of less than 20 indicates that response variance is low and that reliability (or the lack thereof) is usually not a major problem.
- An index value of 20 to 50, inclusive, indicates that response variance is moderate and that lack of reliability is somewhat problematic.
- An index value greater than 50 indicates that response variance is high and that lack of reliability is very problematic.

Among the items selected for examination were several of the instructional practices items, and many of those examined in the reinterview study were also used in this report. Table C6 presents the index of inconsistency values for items that were included in the reinterview study and for which at least one subitem was used in the analyses presented in this publication. These data indicate that although the item measuring the subject area of the designated class (item 31) had low response variance, with an aggregate index of inconsistency value of 12, most other items about the designated class and the practices that teachers used in that class had high response

Table C6—Aggregate index of inconsistency for selected instructional practice items in TFS:94–95

Item or subitem	Aggregate index of inconsistency
31. What is the subject matter of your DESIGNATED CLASS last semester or grading period?*	12.3
a. General	9.0
b. Special areas	13.1
c. Foreign languages	4.0
d. Science	12.0
e. Vocational education	6.8
f. Special education	14.1
g. All other	—
33. Which of the following describe your DESIGNATED CLASS? Mark (X) all that apply.	
Heterogeneous	57.3
Homogeneous	69.5
Remedial	58.6
Special education*	32.5
Gifted	57.4
Academic/college preparatory	56.2
Advanced placement/college credit	—
Honors course	—
Vocational	49.2
Bilingual*	66.6
None of the above	—
36. Over the past semester, how often did you use each of the following instructional strategies with your DESIGNATED CLASS? The strategy need not have taken the entire class period.	
a. Provide instruction to the class as a whole*	58.9
b. Facilitate a discussion*	58.7
c. Demonstrate a concept using the board or overhead projector*	59.4
d. Work with individual students*	63.1
e. Demonstrate a concept using a computer, videotape, or other electronic medium*	66.1
f. Lecture*	59.4
g. Work with small groups of students*	57.7
h. Lead a question-and-answer session*	70.5
i. Demonstrate a concept using manipulatives, models, or other tools or objects*	60.8
j. Administer a test or a quiz for a full period	53.3
k. Administer a test or a quiz for less than a full period	49.5
41. The following is a list of ACTIVITIES TO COMPLETE AT HOME or homework you might have assigned your students. Although the list is not exhaustive, most activities could be considered variations of those listed below. For each activity described below	
a. Write a journal entry	57.3
b. Prepare a written report	59.2
c. Work on problems for which there is no obvious method of solution*	70.1
d. Read the textbook or other assigned reading*	61.8

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Table C6—Aggregate index of inconsistency for selected instructional practice items in TFS:94–95 —Continued

Item or subitem	Aggregate index of inconsistency
e. Apply concepts or principles to different or unfamiliar situation*	73.9
f. Read supplementary material*	64.7
g. Complete routine exercises or problems for worksheet, workbook, or text*	56.2
h. Work on a project, gather data, conduct an experiment*	68.7
i. Prepare an oral report	58.7
j. Complete a short writing assignment	62.1
44. How often do you use assessment information for the following purposes in your DESIGNATED CLASS?	
a. Determining student grades or other formal progress reports	76.2
b. Providing feedback to students	78.7
c. Diagnosing student learning problems	75.4
d. Reporting to parents	74.6
e. Assigning students to different programs or tracks	76.0
f. Planning for future lessons	73.8
49. How often did you use student portfolios in your DESIGNATED CLASS last semester or grading period for the following purposes?	
a. Training students to reflect upon and/or assess each piece of work*	86.8
b. Training students to reflect upon and/or assess their overall progress*	85.2
c. Communicating student progress to parents*	94.3
d. Determining student grades or other formal progress reports	91.2
e. Planning for future lessons*	84.3
f. Diagnosing student learning problems*	85.1
g. Making informed decisions about student placement*	82.4
h. Making informed decisions about student graduation*	80.0
i. Providing information for program or school accountability	88.5

*Item used in analyses presented in this publication.

SOURCE: Bushery, J., Schreiner, I. and Newman-Smith, A. 1998. *Response Variance in the 1994–95 Teacher Follow-up Survey*. Washington, D.C.: U.S. Bureau of the Census.

variance. Among the subitems of item 33, for example, in which teachers indicated which of 10 descriptors accurately described their designated class, only the index of inconsistency values for "special education" and "vocational education" fell in the moderate range (33 and 49, respectively). All others, including "bilingual," which was also used in this report, were above 50, in the high range and indicating low reliability. Aggregate index of inconsistency values for subitems in item 36, 41, and 49 all fell above 50. Subitems within item 49 had aggregate index of inconsistency values of 80 or more.

This report presents the proportion of teachers who reported that they used a practice "almost every day" or "once or twice a week" in part to reduce the effects of high response variance on the accuracy of the estimates. To the degree that teachers' responses vary between the original interview and the reinterview, they are more likely to change from one category to an adjacent category than to a nonadjacent category. For example, teachers who reported in the original interview that they provided instruction to the class as a whole "almost every day" are more likely to change their response in reinterview to "once or twice a week" than "never."

The results of the reinterview study suggest that the estimates derived from these data should be interpreted cautiously. Although the estimates of response variance were high, it is also important to remember that the response rate to the reinterview survey was low. Thus, the reinterview data themselves are subject to some question and may not well represent these items' true response variance. NCES continues to work on improving the measurement of teachers' instructional practices through item development for the Schools and Staffing Survey and related projects.

Statistical Procedures

Statistical tests use estimates and standard errors to take the precision of the estimates into account when determining whether apparent differences in the sample are likely to represent population differences. The primary statistical procedure used in this report is based on the Student's *t* statistic, which is the ratio of the difference between the estimates to the precision of the estimates. A Student's *t* value is computed with the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \qquad (1)$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors.

A difference between two estimates is considered significant, that is, sufficiently likely to be real rather than an artifact of sampling error, when the Student's *t* value for the difference is greater than a critical value. The critical value is determined by selecting an *alpha* level, which is the probability of inferring that a difference exists when, in fact, it does not. The choice of the critical value of the Student's *t* statistic, which is the value against which the significance of an observed difference is judged, depends on how sure the researcher wants to be that the observed difference represents a population difference and not sampling variation. Generally, the more

certain the researcher wants to be, the higher the critical value chosen. Critical values of the Student's *t* statistic at certain *alpha* levels are published in tables in most statistics textbooks.

In order to interpret these statistics appropriately, three points must be kept in mind. First, comparisons resulting in large *t* statistics may appear to merit special attention. However, this is not always the case because the size of the *t* statistic is related not only to the observed differences in the estimates being compared but also to the standard error of the estimates. A small difference between two groups with a much smaller standard error could result in a large *t* statistic, but this small difference is not necessarily noteworthy.

Second, the formula for the Student's *t* statistic given above is valid only for independent estimates. When the estimates are not independent (for example, when comparing a total percentage with that for a subgroup included in the total), a covariance term must be added to the denominator of the formula. Because the actual covariance terms are not known, it is assumed that the estimates are perfectly negatively correlated. Consequently, $2(se_1*se_2)$ is added to quantity of which the square root is taken in the denominator of the *t*-test formula.

Third, when multiple comparisons are made within categories of a variable (for example, when comparing teachers' use of small group instruction between teachers in different subject areas), it becomes increasingly likely that an indication of a population difference is erroneous. Even when there is no difference in the population, at an *alpha* level of .05 there is still a 5 percent chance of concluding that an observed difference, or comparison, between estimates is large enough to be statistically significant. As the number of comparisons increases, the risk of making such an error in inference also increases.

Therefore, to guard against errors of inference derived from multiple comparisons, the Bonferroni procedure was used whenever multiple comparisons were made in this report (Kirk 1995). Generally, this method adjusts the *alpha* level for the total number of comparisons made within a particular variable to reduce the overall probability of determining that a difference is likely to be real when it is not. For each variable, there are (K*(K–1)/2) possible comparisons (or nonredundant pairwise combinations), where K is the number of categories in the variable. For example, teachers' certification status has five categories (advanced, regular or probationary, alternative or provisional, temporary/emergency/other, and unknown). Therefore, K=5 and there are 20, or (5*4)/2, possible comparisons among the categories. The Bonferroni procedure divides the *alpha* level for a single *t* test (for example, .05) by the number of possible pairwise comparisons in order to produce a smaller *alpha*, and therefore a higher critical value, for each comparison.

Finally, when instructional practices were studied in terms of ordered independent variables, the Student's *t*-test was sometimes applied to a measure of linear trend among proportions rather than to the differences between discrete categories. This modification allows researchers to examine whether, for example, the proportion of teachers who used portfolios significantly increased (or decreased) with the ability level of the students they taught in their designated class; in other words, whether there was a linear relationship between the two variables. Based on a simple regression with, in this case, class ability level as the independent variable and the proportion of teachers who used portfolios as the dependent variable, the test involves computing the regression coefficient (*b*) and its corresponding standard error (se). As described above, the ratio of these two (*b*/se) is the test statistic *t*. If *t* is greater than 1.96, the critical value for one comparison at the .05 alpha level, the hypothesis that there is a linear relationship between class ability and teachers' use of portfolios is not rejected.[24]

Definitions of Variables Used in the Report

This section describes four categories of variables that were used in this report. Variables on teachers' instructional practices from the TFS:94–95 are described first. The second section discusses variables that describe teachers' designated classes, that is, the classes about which they reported when they responded to the instructional practice items. The third category of variables describe the characteristics of the schools in which teachers taught. These data were collected in the SASS:93–94 and therefore these analyses include only those teachers who did not change schools between the two survey administrations, as discussed above. The fourth category includes teacher characteristics, including variables from both the SASS:93–94 and TFS:94–95.

Teaching Practices

The key variables examined in this report included teachers' reports of the frequency with which they used various instructional practices in their designated classes, including various teacher activities in class, assessment strategies, and student classroom and homework activities. Teachers reported the frequency with which they used these practices on a 5-point scale with the following response categories: "almost every day," "once or twice a week," "once or twice a month," "once or twice a semester," and "never." To facilitate comparisons among practices, this report presents the proportion of teachers who reported using each practice on at least a weekly basis, that is, the proportion of teachers who fell into the categories of "almost every day" and "once or twice a week."

[24]For more information about this modification of the Student's *t*-test, see Snedecor and Cochran (1967), pp. 246–247.

This section indicates the survey items on instructional practices that were used in this report. When the survey asked teachers to report their practice use on a different scale from that described above, the alternate scale is indicated below.

Grouping Practices and Use of Groupwork

These variables include (1) teachers providing instruction to the class as a whole (TFS233); (2) teachers working with small groups of students (TFS239); (3) teachers working with individual students (TFS236); (4) students working individually on projects or presentations (TFS258); (5) students conferring with other students about their work (TFS268); (6) students working as part of a group on projects or presentations to earn individual grades (TFS263); (7) students working as part of a group on projects or presentations to earn a group grade (TFS265); and (8) students discussing with the whole class solutions developed in small groups (TFS267).

Teacher and Student Interaction Patterns

These variables include (1) students leading while group holds discussions (TFS246); (2) students engaging in discussion primarily with other students (TFS254); (3) teachers facilitating a discussion (TFS234); (4) students engaging in discussion primarily with the teacher (TFS251); (5) teachers lecturing (TFS238); (6) students listening to or observing teacher presentations (TFS247); (7) teachers leading question-and-answer session (TFS240); (8) students responding orally to questions testing recall (TFS244); and (9) students responding orally to open-ended questions (TFS255).

Education Technologies and Materials

These variables include (1) teachers demonstrating a concept using the board or overhead projector (TFS235); (2) teachers demonstrating a concept using a computer, videotape, or other electronic medium (TFS237); (3) teachers demonstrating a concept using manipulatives, models, other tools or objects (TFS241); (4) students using school- or student-owned calculators (TFS245); (5) students using hands-on materials or objects (TFS248); and (6) students using school computers for writing (TFS252).

Print Materials Used in Class and in Homework Assignments

These variables include (1) using a textbook (TFS250); (2) using supplementary printed materials other than textbooks (TFS253); (3) completing a worksheet or workbook emphasizing routine practice (TFS249); (4) reading the textbook or doing other assigned reading at home

(TFS279); (5) reading supplementary material at home (TFS281); and (6) completing routine exercises or problems from worksheet, workbook, or text at home (TFS282).

Higher Order Thinking Activities

These variables include students (1) explaining how what they learned in class related to the real world (TFS257); (2) putting events or things in order and explaining why they were organized that way (TFS266); (3) working on problems for which there were several appropriate answers (TFS261); (4) working on problems for which there were several appropriate methods of solution (TFS262); (5) working on a project, gathering data, conducting an experiment at home (TFS283); (6) working on problems for which there is no obvious method of solution (TFS278); and (7) applying concepts or principles to different or unfamiliar situations (TFS280).

Homework Assignments

These variables include teachers (1) recording only whether the assignment was completed (TFS286); (2) collecting, correcting, and keeping or returning assignments to students and using assignments as a basis for class discussion (combining [TFS287 or TFS289] and TFS292); and (3) collecting, correcting, and keeping or returning assignments to students and using assignments as a basis for lesson planning (combining [TFS287 or TFS289] and TFS294).

Portfolio Use

Variables regarding whether teachers used portfolios and the subjects in which they used them include (1) using portfolios in any field (TFS315, TFS316, TFS317, TFS318, TFS319, TFS320, TFS321, TFS322, TFS323, or TFS324); (2) using portfolios in English/language arts or reading (TFS315 or TFS317); (3) using portfolios in mathematics (TFS316); (4) using portfolios in social studies (TFS318); (5) using portfolios in science (TFS319); and (6) using portfolios in other fields (TFS320, TFS321, TFS322, TFS323, or TFS324). Variables regarding the types of student work that teachers included in student portfolios include (1) worksheets (TFS326); (2) open-ended problems (TFS327); (3) exploratory investigations (TFS328); (4) long-term projects (TFS329); (5) interdisciplinary problems (TFS330); (6) journal entries (TFS331); (7) regularly assigned homework (TFS332); (8) self-reflective writing (TFS333); (9) narrative writing (TFS334); and (10) tests and assessments (TFS338). Finally, variables regarding the purposes for which teachers used portfolios include (1) training students to reflect upon and/or assess each piece of work (TFS348); (2) training students to reflect upon and/or assess their overall progress (TFS349); (3) communicating student progress to parents (TFS350); (4) planning for future

lessons (TFS352); (5) diagnosing student learning problems (TFS353); and (6) making informed decisions about student placement (TFS354).

Grading

These variables include (1) effort, including overall effort, class participation, regular completion of homework assignments, and consistent attendance (TFS302, TFS306, TFS307, or TFS308); (2) individual improvement or progress over past performance (TFS303); (3) achievement relative to the rest of the class (TFS305); (4) absolute achievement, including absolute level of achievement, results of standardized tests produced outside the school, results of tests with open-ended items, and results of tests with multiple-choice or true-false items (TFS304, TFS309, TFS310, or TFS311); and (5) items collected in student portfolios (TFS314). Teachers reported the importance that they placed on each of these factors using a 4-point scale including "Extremely important," "Very important," "Somewhat important," and "Not important." This report presented the proportion of teachers who indicated that each aspect of students' performance was very or extremely important in determining students' grades or formal progress reports.

Recommended Practices: English

This variable counts the number of practices that each English teacher reported using at defined frequencies. The practices that were included and the defined frequency for each are as follows:

(1) Teacher facilitated a discussion at least once a week (TFS234 ≤ 2)

(2) Teacher demonstrated a concept using a computer, videotape, or other electronic medium once or twice a month (TFS237 ≤ 3)

(3) Students used supplementary printed materials other than textbooks at least once a week (TFS253 ≤ 2)

(4) Students engaged in discussion primarily with other students at least once a week (TFS254 ≤ 2)

(5) Students worked on a performing arts project at least once a semester (TFS256 ≤ 4)

(6) Students explained how what they learned in class related to the real world at least once a week (TFS257 ≤ 2)

(7) Students evaluated and improved their own work at least once a month (TFS260 ≤ 3)

(8) Students worked on problems for which there were several appropriate methods of solution at least once a week (TFS262 ≤ 2)

(9) Students worked as part of a group on projects or presentations to earn individual or group grades at least once a month (TFS263 or TFS265 ≤ 3)

(10) Students evaluated the work of other students at least once a month (TFS264 ≤ 3)

(11) Students discussed with the whole class solutions developed in small groups at least once a week (TFS267 ≤ 2)

(12) Students conferred with other students about their work at least once a week (TFS268 ≤ 2)

Recommended Practices: Mathematics

This variable counts the number of practices that each mathematics teacher reported using at defined frequencies. The practices that were included and the defined frequency for each are as follows:

(1) Teacher facilitated a discussion at least once a week (TFS234 ≤ 2)

(2) Teacher demonstrated a concept using manipulatives, models, other tools, or objects at least once a month (TFS241 ≤ 3)

(3) Students used school- or student-owned calculators at least once a week (TFS245 ≤ 2)

(4) Students used hands-on materials or objects at least once a month (TFS248 ≤ 3)

(5) Students engaged in discussion primarily with other students at least once a week (TFS254 ≤ 2)

(6) Students explained how what they learned in class related to the real world at least once a week (TFS257 ≤ 2)

(7) Students evaluated and improved their own work at least once a month (TFS260 ≤ 3)

(8) Students worked on problems for which there were several appropriate answers at least once a week (TFS261 ≤ 2)

(9) Students worked on problems for which there were several appropriate methods of solution at least once a week (TFS262 ≤ 2)

(10) Students worked as part of a group on projects or presentations to earn individual or group grades at least once a month (TFS263 or TFS265 ≤ 3)

(11) Students evaluated the work of other students at least once a month (TFS264 ≤ 3)

(12) Students discussed with the whole class solutions developed in small groups at least once a week (TFS267 ≤ 2)

(13) Students conferred with other students about their work at least once a week (TFS268 ≤ 2)

Recommended Practices: Science

This variable counts the number of practices that each science teacher reported using at defined frequencies. The practices that were included and the defined frequency for each are as follows:

(1) Teacher facilitated a discussion at least once a week (TFS234 ≤ 2)

(2) Teacher demonstrated a concept using manipulatives, models, other tools, or objects at least once a month (TFS241 ≤ 3)

(3) Students used hands-on materials or objects at least once a month (TFS248 ≤ 3)

(4) Students used school computers for writing at least once a month (TFS252 ≤ 3)

(5) Students used supplementary printed materials other than textbooks at least once a week (TFS253 ≤ 2)

(6) Students engaged in discussion primarily with other students at least once a week (TFS254 ≤ 2)

(7) Students explained how what they learned in class related to the real world at least once a week (TFS257 ≤ 2)

(8) Students worked on projects that required at least one week to complete at least once a semester (TFS259 ≤ 4)

(9) Students evaluated and improved their own work at least once a month (TFS260 ≤ 3)

(10) Students worked on problems for which there were several appropriate answers at least once a week (TFS261 ≤ 2)

(11) Students worked on problems for which there were several appropriate methods of solution at least once a week (TFS262 ≤ 2)

(12) Students worked as part of a group on projects or presentations to earn individual or group grades at least once a month (TFS263 or TFS265 ≤ 3)

(13) Students discussed with the whole class solutions developed in small groups at least once a week (TFS267 ≤ 2)

(14) Students conferred with other students about their work at least once a week (TFS268 ≤ 2)

Recommended Practices: Social Studies

This variable counts the number of practices that each social studies teacher reported using at defined frequencies. The practices that were included and the defined frequency for each are as follows:

(1) Teacher demonstrated a concept using a computer, videotape, or other electronic medium once or twice a month (TFS237 ≤ 3)

(2) Teacher demonstrated a concept using manipulatives, models, other tools, or objects at least once a month (TFS241 ≤ 3)

(3) Students used supplementary printed materials other than textbooks at least once a week (TFS253 ≤ 2)

(4) Students engaged in discussion primarily with other students at least once a week (TFS254 ≤ 2)

(5) Students explained how what they learned in class related to the real world at least once a week (TFS257 ≤ 2)

(6) Students worked individually on projects and presentations at least once a semester (TFS258 ≤ 4)

(7) Students worked on projects that required at least one week to complete at least once a semester (TFS259 ≤ 4)

(8) Students evaluated and improved their own work at least once a month (TFS260 ≤ 3)

(9) Students worked on problems for which there were several appropriate answers at least once a week (TFS261 ≤ 2)

(10) Students worked as part of a group on projects or presentations to earn individual or group grades at least once a month (TFS263 or TFS265 ≤ 3)

(11) Students put events or things in order and explained why they were organized that way at least once a week (TFS266 ≤ 2)

(12) Students discussed with the whole class solutions developed in small groups at least once a week (TFS267 ≤ 2)

(13) Students conferred with other students about their work at least once a week (TFS268 ≤ 2)

Designated Class Characteristics

Grade Level

This variable was constructed based on teachers' reports of the grade level of the students in their designated class. Teachers' classes often include students from multiple grade levels, and teachers indicated all grade levels that were represented in their designated classes. In this report, grade level information was combined to create six mutually exclusive categories of teachers. Teachers of special education students were first distinguished from others, and were defined as those who reported that the subject area of the designated class was one of several special education fields (TFS193 = 67–77) or that their designated class could be described as "special education" (TFS213 = 1). The remaining teachers were divided into the following five categories depending on the grade levels of their students: (1) grades K–3 only (TFS196, TFS197, TFS198,

or TFS199 [and not TFS200–TFS208]); (2) grades 4–6 only (TFS200, TFS201, or TFS202 [and not TFS196–TFS199 or TFS203–TFS208]); (3) grades 7–8 only (TFS203 or TFS204 [and not TFS196–202 or TFS205–TFS208]); (4) grades 9–12 only (TFS205, TFS206, TFS207, or TFS208 [and not TFS196–TFS204]); and (5) mixed (those whose students were ungraded or fell in grade levels in more than one of the four categories, e.g., grades 3–4).

Subject Area

This variable was derived from teachers' responses to the item about the subject matter of the designated class (TFS193). The many response categories of this variable were collapsed into nine categories as follows: (1) K–general elementary (i.e., kindergarten and general elementary); (2) English/language arts (i.e., English/language arts and reading); (3) mathematics; (4) science (i.e., physical science, biology/life science, chemistry, geology/earth science/space science, physics, and general and all other science); (5) social studies; (6) special education (defined in the same way it was defined in the grade level variable); (7) bilingual/ESL; (8) vocational education (i.e., accounting, agriculture, business, marketing, health occupations, industrial arts, trade and industry, technical, and other vocational–technical education); and (9) all others.

Bilingual or English-as-a-Second-Language (ESL) Class

This variable was constructed based on teachers' response to the item asking them about their assignment field in the designated class (TFS193) as well as whether their class was bilingual (TFS291). If teachers reported that the subject matter of their designated class was bilingual education or English as a second language or if they described their class as bilingual, they were defined as teaching a bilingual or ESL class.

Class Ability Level

This variable was derived from teachers' estimates of the percentage distribution of the students in the designated class according to their academic ability relative to the school average. Teachers indicated the proportion of students in the designated class who were much above the school average, somewhat above it, at the school average, somewhat below it, and much below it. For the purposes of this report, teachers were divided into four categories: those who reported that one-half or more of their students were (1) somewhat or much above the school average (the sum of TFS227 and TFS228 was greater than 50 percent); (2) at the school average (TFS229 greater than 50 percent); (3) somewhat or much below the school average (the sum of TFS230 and TFS231 greater than 50 percent); and (4) mixed (no more than 49 percent of students fell into any of these three categories).

School Characteristics

Private School Affiliation

This variable (AFFIL) came from the SASS:93–94 Private School Survey and is derived by NCES staff. It identifies three categories of private schools: Catholic schools, other religious schools, and nonsectarian schools.

Percent Free/Reduced-Price Lunch Recipients

This variable was the proportion of students who received free or reduced-price lunch. It was computed for public schools that participated in the National School Lunch Program. Because relatively few private schools participated in the program, this variable was not computed for private schools. The proportion was classified into four categories: 0–5 percent, 6–20 percent, 21–40 percent, and more than 40 percent.

Percent Limited-English-Proficient Students

This variable was the proportion of students who were identified as having limited English proficiency as reported on the SASS:93–94 School Questionnaire. The proportion was further classified into three categories: 0 percent, 1–9 percent, and 10 or more percent.

Teacher Characteristics

Teaching Experience

This variable was a sum of the total number of years that teachers taught full time and part time in public and private schools (T0095 and T0110) as reported in 1993–94. Because the TFS:94–95 data were collected one year later, for the purposes of this report, one year was added to each teacher's total years of experience. The sum was classified into four categories: 1–4 years, 5–10 years, 11–20 years, or 21 or more years.

Highest Earned Degree

This variable was drawn from teachers' responses to items asking them about the types of degrees they had earned (T0170, T0235, T0285, T0300, and TFS157). The variable was classified into three categories: bachelor's degree or less; master's degree; and degree higher than master's degree, including educational specialist, doctorate, or professional degree.

Professional Development

These five variables were drawn from the SASS:93–94 in which teachers were asked whether they had participated in professional development programs that focused on (1) uses of educational technology for instruction (T0590); (2) methods of teaching in their subject field (T0600); (3) in-depth study in their subject field (T0610); (4) student assessment (T0620); and (5) cooperative learning in the classroom (T0630).

Appendix D—Teacher Follow-up Survey—Questionnaire for Current Teachers

OMB No. 1850-0617: Approval Expires 12/31/95

NOTICE – This report is authorized by law (20 U.S. Code 1221e). Your answers will be kept strictly confidential. Results from this survey will appear in summary or statistical form only, so that individuals cannot be identified.

FORM **TFS-3**
(1-3-95)

U.S. Department of Education
National Center for Education Statistics

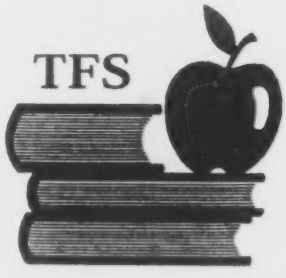
TEACHER FOLLOW-UP SURVEY

QUESTIONNAIRE FOR CURRENT TEACHERS

1994 – 1995

Conducted by:

U.S. Department of Commerce
Bureau of the Census



THIS SURVEY HAS BEEN ENDORSED BY:

American Association for Counseling and Development
American Association of School Administrators
American Federation of Teachers
Bureau of Indian Affairs
Council for American Private Education
Council of Chief State School Officers
National Association of Elementary School Principals
National Association of Independent Schools
National Association of Secondary School Principals
National Catholic Educational Association
National Education Association

002
1 [X] *OFFICE USE ONLY*

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INSTRUCTIONS

Most of the items on this questionnaire are arranged so that the answer categories or spaces for written answers are under the questions. Please answer the questions by marking the appropriate answer category with an X, or recording your answer in the space provided. We suggest that you use a pencil, rather than a pen or marker.

Notice that at the end of some answer categories and answer spaces, there are instructions to skip to later questions or to continue with the next question on the questionnaire.

If you are unsure about how to answer a question, please give the best answer you can and make a comment in the "Notes" space. Please include the item number.

If you have any questions, call the Bureau of the Census, toll free, at 1–800–221–1204.

Return your completed questionnaire to the Bureau of the Census in the enclosed preaddressed envelope. Please return it within two weeks.

Please keep count of the time you spend completing this questionnaire. At the end of the survey, you are asked to record the amount of time spent.

Are you currently teaching – full-time, part-time, or as a long-term substitute – in grades K through 12?

003 1 ☐ Yes — *PLEASE CONTINUE with this survey.*

2 ☐ No — STOP *RETURN THIS FORM to the Bureau of the Census in the enclosed envelope. You will be sent another form for teachers who are still teaching.*

SECTION I – MAIN ACTIVITY

EDUCATION FIELDS

(Use codes to answer items 1a, 1b, 2, 3a, and 3b)

01 Teaching in an elementary or secondary school
02 Working in an elementary or secondary school with an assignment OTHER THAN teaching
03 Working in an occupation outside of elementary or secondary education
04 Attending a college or university
05 Caring for family members
06 Retired
07 Other

1a. Is your time EQUALLY DIVIDED between two of the above listed activities?

090 1 ☐ Yes
2 ☐ No

GO to item 2.

b. What are the codes from the list above?

092 ☐☐ Code and 093 ☐☐ Code → ***GO to item 4.***

2. What code from the list above best describes the activity you spend most of your time on during the work week; that is, what is your main activity?

094 ☐☐ Code Main activity

3a. Do you spend time on any other activity from the list above?

095 1 ☐ Yes
2 ☐ No

GO to item 4.

b. What code from the list above best describes this other activity?

096 ☐☐ Code Other activity

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SECTION I – MAIN ACTIVITY – CONTINUED

4. Which of the following categories describes your position as a school EMPLOYEE?

Mark (X) only one box.

107
1 ☐ Full time employee
2 ☐ 3/4 time or more, but less than full-time employee
3 ☐ 1/2 time or more, but less than 3/4 time employee
4 ☐ 1/4 time or more, but less than 1/2 time employee
5 ☐ Less than 1/4 time employee

5a. How much time do you work as a TEACHER at this school?

Mark (X) only one box.

108
1 ☐ Full time teacher
2 ☐ 3/4 time or more, but less than full-time teacher
3 ☐ 1/2 time or more, but less than 3/4 time teacher
4 ☐ 1/4 time or more, but less than 1/2 time teacher
5 ☐ Less than 1/4 time teacher

b. Which of the following categories best describes your teaching assignment?

Mark (X) only one box.

109
1 ☐ Regular full-time or part-time teacher
2 ☐ Itinerant teacher (i.e., your assignment requires you to provide instruction at more than one school)
3 ☐ Long-term substitute (i.e., your assignment requires that you fill the role of a regular teacher on a long-term basis, but you are still considered a substitute)

6. If you are a full-time school or district employee with less than a full-time teaching assignment, which of these best describes your other assignment at this school?

Mark (X) only one box.

110
1 ☐ Administrator (e.g., principal, assistant principal, director, head)
2 ☐ Counselor
3 ☐ Librarian/media specialist
4 ☐ Coach
5 ☐ Other professional staff (e.g., department head, curriculum coordinator)
6 ☐ Support staff (e.g., secretary, aide)
7 ☐ Other – *Describe*

_____

_____

_____

8 ☐ Not applicable

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SECTION I – MAIN ACTIVITY – CONTINUED

TEACHING ASSIGNMENT FIELD CODES FOR QUESTIONS 7a and b

01 Prekindergarten
02 Kindergarten
03 General elementary

Special areas
86 American Indian/Native American studies
10 Art
12 Basic skills and remedial education
13 Bilingual education
17 Computer science
18 Dance
19 Drama/theater
21 English/language arts
23 English as a second language
26 Gifted
28 Home economics
16 Journalism
33 Mathematics
35 Military science
37 Music
39 Philosophy
40 Physical education, health
43 Reading
44 Religion
47 Social studies/social science

Foreign languages
51 French
52 German
53 Latin
54 Russian
55 Spanish
56 Other foreign language

Science
57 Biology/life science
58 Chemistry
59 Geology/Earth science/Space science
60 Physics
61 General and all other science

Vocational education
05 Accounting
06 Agriculture
14 Business, marketing
27 Health occupations
30 Industrial arts
49 Trade and industry
50 Technical
83 Other vocational education

Special education
67 Special education, general
68 Emotionally disturbed
69 Mentally retarded
70 Speech/language impaired
71 Deaf and hard-of-hearing
72 Visually handicapped
73 Orthopedically impaired
74 Mildly handicapped
75 Severely handicapped
76 Specific learning disabilities
77 Other special education

84 **All others**

7a. What is your MAIN teaching assignment at this school, that is, the field in which you teach the most classes?

Enter your main teaching assignment field and the two-digit code from the list above. If your teaching schedule is divided equally between two fields, record either field as your main assignment for this item, mark box 1, and enter the code for the other field in question 7b.

111 ☐☐ Code — Main assignment field

112 1☐ Teaching assignment equally divided between two fields

b. Do you teach classes in OTHER fields at this school?

113 1☐ Yes
2☐ No → ***GO to item 8a.***

In what field do you teach the second most classes?

Use the assignment field codes listed above.

114 ☐☐ Code

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SECTION I – MAIN ACTIVITY – CONTINUED

8a. Do you have a teaching certificate in this state in your MAIN teaching assignment field?

115
- 1 ☐ Yes
- 2 ☐ No

GO to item 9a.

b. What type of certificate do you hold in this field?

Mark (X) only one box.

116
- 1 ☐ Advanced professional certificate
- 2 ☐ Regular or standard state certificate
- 3 ☐ The certificate offered in your state to persons who HAVE COMPLETED what the state calls an "alternative certification program"
- 4 ☐ Provisional or other type given to persons who are still participating in what the state calls an "alternative certification program"
- 5 ☐ Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period)
- 6 ☐ Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)
- 7 ☐ Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching)

c. In what year were you certified in your main teaching assignment field by this state?

117 | 1 | 9 | | |

9a. Do you have a teaching certificate in this state in your OTHER teaching assignment field at this school?

118
- 0 ☐ Not applicable; I do not have a second teaching assignment field → ***GO to item 10.***
- 1 ☐ Yes
- 2 ☐ No

GO to item 10.

b. What type of certificate do you hold in this field?

Mark (X) only one box.

119
- 1 ☐ Advanced professional certificate
- 2 ☐ Regular or standard state certificate
- 3 ☐ The certificate offered in your state to persons who HAVE COMPLETED what the state calls an "alternative certification program"
- 4 ☐ Provisional or other type given to persons who are still participating in what the state calls an "alternative certification program"
- 5 ☐ Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period)
- 6 ☐ Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)
- 7 ☐ Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching)

c. In what year were you certified in this field by this state?

120 | 1 | 9 | | |

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SECTION I – MAIN ACTIVITY – CONTINUED

10. In what grade levels are the students in your classes at THIS school?

Mark (X) all that apply.

121 1 ☐ Ungraded
122 1 ☐ Prekindergarten
123 1 ☐ Kindergarten
124 1 ☐ 1st
125 1 ☐ 2nd
126 1 ☐ 3rd
127 1 ☐ 4th
128 1 ☐ 5th
129 1 ☐ 6th
130 1 ☐ 7th
131 1 ☐ 8th
132 1 ☐ 9th
133 1 ☐ 10th
134 1 ☐ 11th
135 1 ☐ 12th
136 1 ☐ Postsecondary

11. Which of the following best describes the community in which this school is located?

Mark (X) only one box.

137
1 ☐ A rural or farming community
2 ☐ A small city or town of fewer than 50,000 people that is not a suburb of a larger city
3 ☐ A medium-sized city (50,000 to 100,000 people)
4 ☐ A suburb of a medium-sized city
5 ☐ A large city (100,000 to 500,000 people)
6 ☐ A suburb of a large city
7 ☐ A very large city (over 500,000 people)
8 ☐ A suburb of a very large city
9 ☐ A military base or station
10 ☐ An Indian reservation

12. Are you currently teaching in the SAME school as you were last year when you completed the Schools and Staffing Survey?

138
1 ☐ Yes → ***GO to item 17.***
2 ☐ No

13. Are you currently teaching in the SAME state as you were last year when you completed the Schools and Staffing Survey?

139
1 ☐ Yes
2 ☐ No – **In what state or country are you teaching now?**

140 ☐☐ _____
Office use only — State or Country

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SECTION I – MAIN ACTIVITY – CONTINUED

14. Which of the following best describes your move from last year's school to this year's school?

Mark (X) only one box.

141
- 1 ☐ Moved from one public school to another public school in the SAME school district
- 2 ☐ Moved from one public school district to another public school district
- 3 ☐ Moved from a private school to a public school

→ ***GO to item 16.***

- 4 ☐ Moved from one private school to another private school
- 5 ☐ Moved from a public school to a private school

15. Is the private school in which you currently teach affiliated with the Roman Catholic Church or another religious organization, or is it non-religious?

Mark (X) only one box.

142
- 1 ☐ Religious – Roman Catholic
- 2 ☐ Religious – Non-Roman Catholic
- 3 ☐ Non-Religious

POSSIBLE REASONS FOR LEAVING PREVIOUS SCHOOL

(Use codes to answer items 16a, b, and c.)

01 Family or personal move
02 For better salary or benefits
03 For a better teaching assignment (subject area or grade level)
04 School staffing action (e.g., reduction-in-force, lay-off, school closing, school reorganization, reassignment)
05 Dissatisfied with the previous school

16a. What was your main reason for leaving the school in which you taught last year?

Enter code from above.

143 ☐☐ Code _____ Main reason

b. Did you have a second reason for leaving?

144
- 1 ☐ Yes
- 2 ☐ No → ***GO to item 16d.***

What was your second reason? *Enter code, then continue with item 16c.*

145 ☐☐ Code

c. Did you have a third reason for leaving?

146
- 1 ☐ Yes
- 2 ☐ No

What was your third reason? *Enter code.*

147 ☐☐ Code

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SECTION I – MAIN ACTIVITY – CONTINUED

16d. Did you enter code 05 for one of your reasons in question 16a, b, or c?

148 1 ☐ Yes
2 ☐ No

GO to item 17.

POSSIBLE AREAS OF DISSATISFACTION

(Use codes to answer items 16e, f, and g.)

01 Poor opportunity for professional advancement

02 Lack of recognition and support from administration

03 Lack of resources and materials/equipment for your classroom

04 Inadequate support from administration

05 Lack of influence over school policies and practices

06 Lack of control over own classroom

07 Intrusions on teaching time (i.e., not enough time working directly with teaching students)

08 Inadequate time to prepare lesson/teaching plans

09 Poor student motivation to learn

10 Class sizes too large

11 Student discipline problems

12 Poor salary

16e. What was your main area of dissatisfaction with teaching in your previous school?

Enter code from above.

149 ☐☐ Code — Main dissatisfaction

f. Did you have a second area of dissatisfaction?

150 1 ☐ Yes
2 ☐ No → ***GO to item 17.***

151 **What was your second area?** *Enter code, then continue with item 16g.*

☐☐ Code

g. Did you have a third area of dissatisfaction?

152 1 ☐ Yes
2 ☐ No

What was your third area? *Enter code.*

153 ☐☐ Code

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SECTION II – EDUCATION ACTIVITIES AND FUTURE PLANS

17. Have you earned any new degrees in the past 12 months?

154 1 ☐ Yes
2 ☐ No

GO to item 22.

18. When did you earn this degree?

155 Month ☐☐

156 Year 1 9 ☐☐

19. What type of degree is it?

Mark (X) only one box.

157
1 ☐ Associate degree
2 ☐ Bachelor's
3 ☐ Master's
4 ☐ Education specialist or professional diploma (at least one year beyond Master's level)
5 ☐ Doctorate (e.g., Ph.D., Ed.D.)
6 ☐ Professional (e.g., M.D., D.D.S., J.D., L.L.B.)

NOTES

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SECTION II – EDUCATION ACTIVITIES AND FUTURE PLANS – CONTINUED

MAJOR FIELD OF STUDY CODES FOR QUESTIONS 20 and 24

EDUCATION

General education
01 Pre-elementary/early childhood education
03 Elementary education
04 Secondary education

Subject area education
07 Agricultural education
11 Art education
13 Bilingual education
15 Business, commerce, and distributive education
89 Crosscultural education
22 English education
23 English as a second language
24 Foreign languages education
29 Home economics education
88 American Indian/Native American education
30 Industrial arts, vocational and technical, trade and industry education
34 Mathematics education
38 Music education
40 Physical education/health education
43 Reading education
45 Religious education
46 Science education
48 Social studies/social sciences education

Special education
67 Special education, general
68 Emotionally disturbed
69 Mentally retarded
70 Speech/language impaired
71 Deaf and hard-of-hearing
72 Visually handicapped
73 Orthopedically impaired
74 Mildly handicapped
75 Severely handicapped
76 Specific learning disabilities
77 Other special education

Other education
78 Curriculum and instruction
79 Educational administration
80 Educational psychology
81 Counseling and guidance
82 Other education

GENERAL

06 Agriculture and natural resources
86 American Indian/Native American studies
87 Other area and ethnic studies
08 Architecture and environmental design
10 Art, fine and applied
14 Business and management
16 Communications and journalism
17 Computer and information sciences
19 Drama, theater
20 Engineering
21 English (literature, letters, speech, classics)
25 General studies
27 Health professions and occupations
28 Home economics
85 Humanities
31 Law
32 Library science
33 Mathematics
35 Military science
36 Multi/interdisciplinary studies
37 Music
39 Philosophy
41 Psychology
42 Public affairs and services
44 Religion, theology

Foreign languages
51 French
52 German
53 Latin
54 Russian
55 Spanish
56 Other foreign languages

Natural sciences
57 Biology/life science
58 Chemistry
59 Geology/earth science
60 Physics
61 Other natural sciences

Social sciences
62 Economics
63 History
64 Political science and government
65 Sociology
66 Other social sciences

84 All others

20. What is the major field of study for your NEW degree?

Enter the field and two-digit code from the list above.

198 ☐☐ _____

Code Major field

21. For what purpose did you earn this degree? *Mark (X) only one box.*

199
1 ☐ To increase salary
2 ☐ For professional development in current field
3 ☐ To teach in a different field than the one taught last year
4 ☐ For a nonteaching position in elementary or secondary education
5 ☐ For an occupation outside elementary or secondary education other than current job
6 ☐ Other – *Specify* _____

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SECTION II – EDUCATION ACTIVITIES AND FUTURE PLANS – CONTINUED

22. Are you currently enrolled in a degree program?

Mark (X) only one box.

160
- 1 ☐ No → ***GO to item 26.***
- 2 ☐ Yes, as a full-time student
- 3 ☐ Yes, as a part-time student

23. What type of degree are you pursuing?

Mark (X) only one box.

161
- 1 ☐ Associate degree
- 2 ☐ Bachelor's
- 3 ☐ Master's
- 4 ☐ Education specialist or professional diploma (at least one year beyond Master's level)
- 5 ☐ Doctorate (e.g., Ph.D., Ed.D.)
- 6 ☐ Professional (e.g., M.D., D.D.S., J.D., L.L.B.)

24. What is the major field of study for the degree you are pursuing?

Enter the field and two-digit code from the list on page 10.

162 ☐☐ _____

Code Major field

25. For what purpose are you pursuing this degree?

Mark (X) only one box.

163
- 1 ☐ To increase teacher salary
- 2 ☐ For professional development in current teaching field
- 3 ☐ To teach in another field
- 4 ☐ For a nonteaching position in elementary or secondary education
- 5 ☐ For an occupation outside elementary or secondary education
- 6 ☐ Other – *Specify* _____

26. How long do you plan to remain in teaching?

Mark (X) only one box.

164
- 1 ☐ As long as I am able
- 2 ☐ Until I am eligible for retirement
- 3 ☐ Will probably continue unless something better comes along
- 4 ☐ Definitely plan to leave teaching as soon as I can
- 5 ☐ Undecided at this time

GO to item 28.

27. In how many years do you plan to retire from teaching?

165 ☐☐ Years

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SECTION II – EDUCATION ACTIVITIES AND FUTURE PLANS – CONTINUED

28. What do you expect your MAIN activity will be during the NEXT SCHOOL YEAR (1995–96)?

Mark (X) only one box.

166
1 ☐ Teaching in this school
2 ☐ Teaching in another school in this school system
3 ☐ Teaching in another public school system
4 ☐ Teaching in a private school
5 ☐ Teaching in a preschool
6 ☐ Teaching at the postsecondary level
7 ☐ Working as a substitute teacher
8 ☐ Student at a college or university
9 ☐ Working in a nonteaching occupation in the field of education
10 ☐ Working in an occupation outside the field of education
11 ☐ Caring for family members
12 ☐ Unemployed and seeking work
13 ☐ Military service
14 ☐ Retired

SECTION III – YOUR OPINIONS

POSSIBLE STEPS SCHOOLS MIGHT TAKE TO ENCOURAGE TEACHERS TO REMAIN IN TEACHING

(Use codes to answer items 29a, b, and c.)

01 Providing higher salaries and/or better fringe benefits
02 Improving opportunities for professional advancement
03 Dealing more effectively with student discipline and making schools safer
04 Giving teachers more authority in the school and in their own classrooms
05 Increasing standards for students' academic performance
06 Providing better resources and materials for classroom use
07 Decreasing class size
08 Giving special recognition and/or special assignments to excellent or outstanding teachers
09 Reducing the paperwork burden on teachers
10 Providing more support for new teachers (e.g., mentor teacher programs)
11 Increasing parent involvement in the schools
12 Reducing teacher workload
13 Providing merit pay or other pay incentives to teachers
14 Improving opportunities for professional development
15 Providing tuition reimbursement for coursework required for certification or career advancement
16 Revising health insurance program to include stress reduction seminars, counseling, and physical fitness options

29a. What would be the most effective step that schools might take to encourage teachers to remain in teaching?

Enter code from above.

167 ☐☐ Most effective step
Code

b. What would be the second most effective step?

Enter code from above.

168 ☐☐ Second step
Code

c. What would be the third most effective step?

Enter code from above.

169 ☐☐ Third step
Code

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SECTION III – YOUR OPINIONS – CONTINUED

30. **How satisfied are you with EACH of the following aspects of teaching? Are you (a) Very satisfied, (b) Somewhat satisfied, (c) Somewhat dissatisfied, or (d) Very dissatisfied with –**	Very satisfied (a)	Somewhat satisfied (b)	Somewhat dissatisfied (c)	Very dissatisfied (d)
a. Salary	170 1☐	2☐	3☐	4☐
b. Opportunities for professional advancement	171 1☐	2☐	3☐	4☐
c. Opportunities for professional development	172 1☐	2☐	3☐	4☐
d. Recognition and support from administrators	173 1☐	2☐	3☐	4☐
e. Safety of school environment	174 1☐	2☐	3☐	4☐
f. Your influence over school policies and practices	175 1☐	2☐	3☐	4☐
g. Autonomy or control over your own classroom	176 1☐	2☐	3☐	4☐
h. Professional prestige	177 1☐	2☐	3☐	4☐
i. Benefits	178 1☐	2☐	3☐	4☐
j. Procedures for performance evaluation	179 1☐	2☐	3☐	4☐
k. Teaching load	180 1☐	2☐	3☐	4☐
l. Availability of resources and materials/equipment for your classroom	181 1☐	2☐	3☐	4☐
m. General work conditions	182 1☐	2☐	3☐	4☐
n. Job security	183 1☐	2☐	3☐	4☐
o. Professional caliber of colleagues	184 1☐	2☐	3☐	4☐
p. Intellectual challenge	185 1☐	2☐	3☐	4☐
q. Student motivation to learn	186 1☐	2☐	3☐	4☐
r. School learning environment	187 1☐	2☐	3☐	4☐
s. Student discipline and behavior	188 1☐	2☐	3☐	4☐
t. Class size	189 1☐	2☐	3☐	4☐
u. Support from parents	190 1☐	2☐	3☐	4☐
v. The esteem of society for the teaching profession	191 1☐	2☐	3☐	4☐
w. Overall job satisfaction	192 1☐	2☐	3☐	4☐

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SECTION IV – TEACHING METHODS

This section asks about the teaching strategies, instructional practices, and organizational techniques you use in teaching. The information you provide is intended to describe students' educational experiences and inform future national surveys of school processes.

Think of the class for which you had primary responsibility **last semester or grading period** when answering the following questions. If you were responsible for a single group of students all day (such as an elementary teacher might have been), think of them as the designated class. If you were responsible for multiple classes or groups of students (such as a content area or special education teacher might have been), select your first instructional class or group of the day (not homeroom). Think of this as the **"DESIGNATED" class**.

TEACHING ASSIGNMENT FIELD CODES FOR QUESTION 31

General

01 Prekindergarten
02 Kindergarten
03 General elementary

Special areas

86 American Indian/Native American studies
10 Art
12 Basic skills and remedial education
13 Bilingual education
17 Computer science
18 Dance
19 Drama/Theater
21 English/Language arts
23 English as a second language
26 Gifted
28 Home economics
16 Journalism
33 Mathematics
35 Military science
37 Music
39 Philosophy
40 Physical education, health
43 Reading
44 Religion
47 Social studies/social science (including history)

Foreign language

51 French
52 German
53 Latin
54 Russian
55 Spanish
56 Other foreign language

Science

57 Biology/Life science
58 Chemistry
59 Geology/Earth science/Space science
09 Physical science
60 Physics
61 General and all other science

Vocational-technical education

05 Accounting
06 Agriculture
14 Business, marketing
27 Health occupations
30 Industrial arts
49 Trade and industry
50 Technical
83 Other vocational-technical education

Special education

67 Special education, general
68 Emotionally disturbed
69 Mentally retarded
70 Speech/Language impaired
71 Deaf and hard-of-hearing
72 Visually handicapped
73 Orthopedically impaired
74 Mildly handicapped
75 Severely handicapped
76 Specific learning disabilities
77 Other special education

84 All others

31. What was the subject matter of your DESIGNATED CLASS last semester or grading period?

Record the two digit code from the list above and the field name.

193 ☐☐

Code Main assignment field

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SECTION IV – TEACHING METHODS – CONTINUED

32. In what grade levels are the students in your DESIGNATED CLASS?

Mark (X) all that apply.

194 1☐Ungraded
195 1☐Prekindergarten
196 1☐Kindergarten
197 1☐1st
198 1☐2nd
199 1☐3rd
200 1☐4th
201 1☐5th
202 1☐6th
203 1☐7th
204 1☐8th
205 1☐9th
206 1☐10th
207 1☐11th
208 1☐12th
209 1☐Postsecondary

33. Which of the following describe your DESIGNATED CLASS?

Mark (X) all that apply.

210 1☐Heterogeneous
211 2☐Homogeneous
212 3☐Remedial
213 4☐Special education
214 5☐Gifted
215 6☐Academic/college preparatory
216 7☐Advanced placement/college credit
217 8☐Honors course
218 9☐Vocational
219 10☐Bilingual
220 11☐None of the above

34. Write in your estimate of the percentage of students in your DESIGNATED CLASS who were at each level of academic ability for their age and grade. (Numbers should total 100.)

221 Much above the **NATIONAL** average _____ %
222 Somewhat above the **NATIONAL** average _____ %
223 At the **NATIONAL** average _____ %
224 Somewhat below the **NATIONAL** average _____ %
225 Much below the **NATIONAL** average _____ %
226 1☐Not applicable

35. Write in your estimate of the percentage of students in your DESIGNATED CLASS who were at each level of academic ability for their age and grade. (Numbers should total 100.)

227 Much above the **SCHOOL** average _____ %
228 Somewhat above the **SCHOOL** average _____ %
229 At the **SCHOOL** average _____ %
230 Somewhat below the **SCHOOL** average _____ %
231 Much below the **SCHOOL** average _____ %
232 1☐Not applicable

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SECTION IV – TEACHING METHODS – CONTINUED

36. **Over the past semester, how often did YOU use each of the following instructional strategies with your DESIGNATED CLASS? The strategy need not have taken the entire class period.** *Mark (X) one response on each line.*	Almost every day (a)	Once or twice a week (b)	Once or twice a month (c)	Once or twice a semester (d)	Never (e)
a. Provide instruction to the class as a whole	233 1☐	2☐	3☐	4☐	5☐
b. Facilitate a discussion	234 1☐	2☐	3☐	4☐	5☐
c. Demonstrate a concept using the board or overhead projector	235 1☐	2☐	3☐	4☐	5☐
d. Work with individual students	236 1☐	2☐	3☐	4☐	5☐
e. Demonstrate a concept using a computer, videotape, or other electronic medium	237 1☐	2☐	3☐	4☐	5☐
f. Lecture	238 1☐	2☐	3☐	4☐	5☐
g. Work with small groups of students	239 1☐	2☐	3☐	4☐	5☐
h. Lead question-and-answer session	240 1☐	2☐	3☐	4☐	5☐
i. Demonstrate a concept using manipulatives, models, other tools or objects	241 1☐	2☐	3☐	4☐	5☐
j. Administer a test or quiz for less than a full period	242 1☐	2☐	3☐	4☐	5☐
k. Administer a test or quiz for a full period	243 1☐	2☐	3☐	4☐	5☐
37. In your DESIGNATED CLASS over the last semester, how often did planned in-class activities require that STUDENTS: *Mark (X) one response on each line.*					
a. Respond orally to questions testing recall	244 1☐	2☐	3☐	4☐	5☐
b. Use school- or student-owned calculators	245 1☐	2☐	3☐	4☐	5☐
c. Lead whole group discussions	246 1☐	2☐	3☐	4☐	5☐
d. Listen to or observe teacher presentations	247 1☐	2☐	3☐	4☐	5☐
e. Use hands-on materials or objects	248 1☐	2☐	3☐	4☐	5☐
f. Complete a worksheet or workbook emphasizing routine practice	249 1☐	2☐	3☐	4☐	5☐
g. Use a textbook	250 1☐	2☐	3☐	4☐	5☐
h. Engage in discussion primarily with the teacher	251 1☐	2☐	3☐	4☐	5☐
i. Use school computers for writing	252 1☐	2☐	3☐	4☐	5☐
j. Use supplementary printed materials other than textbooks	253 1☐	2☐	3☐	4☐	5☐
k. Engage in discussion primarily with other students	254 1☐	2☐	3☐	4☐	5☐
l. Respond orally to open-ended questions	255 1☐	2☐	3☐	4☐	5☐
m. Work on a performing arts project	256 1☐	2☐	3☐	4☐	5☐

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SECTION IV – TEACHING METHODS – CONTINUED

38. **Indicate the frequency with which STUDENTS did the following in your DESIGNATED CLASS during the last semester.** *Mark (X) one response on each line.*	Almost every day (a)	Once or twice a week (b)	Once or twice a month (c)	Once or twice a semester (d)	Never (e)
a. Explained how what they learned in class related to the real world	257 1☐	2☐	3☐	4☐	5☐
b. Worked individually on projects or presentations	258 1☐	2☐	3☐	4☐	5☐
c. Worked on projects that required at least one week to complete	259 1☐	2☐	3☐	4☐	5☐
d. Evaluated and improved their own work	260 1☐	2☐	3☐	4☐	5☐
e. Worked on problems for which there were several appropriate answers	261 1☐	2☐	3☐	4☐	5☐
f. Worked on problems for which there were several appropriate methods of solution	262 1☐	2☐	3☐	4☐	5☐
g. Worked as part of a group on projects or presentations to earn individual grades	263 1☐	2☐	3☐	4☐	5☐
h. Evaluated the work of other students	264 1☐	2☐	3☐	4☐	5☐
i. Worked as part of a group on projects or presentations to earn a group grade	265 1☐	2☐	3☐	4☐	5☐
j. Put events or things in order and explained why they were organized that way	266 1☐	2☐	3☐	4☐	5☐
k. Discussed with the whole class solutions developed in small groups	267 1☐	2☐	3☐	4☐	5☐
l. Conferred with other students about their work	268 1☐	2☐	3☐	4☐	5☐
39. Over the last semester, how often did you emphasize the following with these students? *Mark (X) one response on each line.*					
a. Generalizing from patterns or examples	269 1☐	2☐	3☐	4☐	5☐
b. Analyzing and interpreting information	270 1☐	2☐	3☐	4☐	5☐
c. Organizing, summarizing, or displaying information	271 1☐	2☐	3☐	4☐	5☐
40. During a class discussion in your DESIGNATED CLASS if a student gave an incorrect response how frequently did you do each of the following? *Mark (X) one response on each line.*					
a. Call on other students to get their responses and then discuss what is correct	272 1☐	2☐	3☐	4☐	5☐
b. Ask the student another question to help him or her get the correct response	273 1☐	2☐	3☐	4☐	5☐
c. Call on another student likely to give the correct response	274 1☐	2☐	3☐	4☐	5☐
d. Provide the correct response yourself	275 1☐	2☐	3☐	4☐	5☐

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SECTION IV – TEACHING METHODS – CONTINUED

41. This following is a list of ACTIVITIES TO COMPLETE AT HOME or homework you might have assigned your students. Although the list is not exhaustive, most activities could be considered variations of those listed below. For each activity described below, indicate the frequency with which you assigned each over the last semester in your DESIGNATED CLASS.

Mark "never" for activities you did not assign during the last semester.

Mark (X) one response on each line.

	Almost every day (a)	Once or twice a week (b)	Once or twice a month (c)	Once or twice a semester (d)	Never (e)
a. Write a journal entry	276 1☐	2☐	3☐	4☐	5☐
b. Prepare a written report	277 1☐	2☐	3☐	4☐	5☐
c. Work on problems for which there is no obvious method of solution	278 1☐	2☐	3☐	4☐	5☐
d. Read the textbook or other assigned reading	279 1☐	2☐	3☐	4☐	5☐
e. Apply concepts or principles to different or unfamiliar situation	280 1☐	2☐	3☐	4☐	5☐
f. Read supplementary material	281 1☐	2☐	3☐	4☐	5☐
g. Complete routine exercises or problems from worksheet, workbook, or text	282 1☐	2☐	3☐	4☐	5☐
h. Work on a project, gather data, conduct an experiment	283 1☐	2☐	3☐	4☐	5☐
i. Prepare an oral report	284 1☐	2☐	3☐	4☐	5☐
j. Complete a short writing assignment	285 1☐	2☐	3☐	4☐	5☐

42. When students in your DESIGNATED CLASS were assigned written homework or activities to complete at home, how often did YOU do each of the following?

Mark "never" for activities you did not assign during the last semester.

Mark (X) one response on each line.

	Always (a)	Often (b)	Some-times (c)	Rarely (d)	Never (e)
a. Record only whether assignment was completed	286 1☐	2☐	3☐	4☐	5☐
b. Collect, correct, and keep assignments	287 1☐	2☐	3☐	4☐	5☐
c. Keep items in a student portfolio	288 1☐	2☐	3☐	4☐	5☐
d. Collect, correct, and return assignment to students	289 1☐	2☐	3☐	4☐	5☐
e. Have students exchange assignments and correct them in class	290 1☐	2☐	3☐	4☐	5☐
f. Have students correct their own assignments in class	291 1☐	2☐	3☐	4☐	5☐
g. Use assignment as a basis for class discussion	292 1☐	2☐	3☐	4☐	5☐
h. Use assignment as a basis for grading students	293 1☐	2☐	3☐	4☐	5☐
i. Use assignment as a basis for lesson planning	294 1☐	2☐	3☐	4☐	5☐

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SECTION IV – TEACHING METHODS – CONTINUED

45. In determining student grades or other formal progress reports for students in your DESIGNATED CLASS, indicate the importance you gave to each of the following.

Mark (X) one response on each line.

	Extremely important (a)	Very important (b)	Somewhat important (c)	Not important (d)
a. Effort	302 1☐	2☐	3☐	4☐
b. Individual improvement or progress over past performance	303 1☐	2☐	3☐	4☐
c. Absolute level of achievement	304 1☐	2☐	3☐	4☐
d. Achievement relative to the rest of the class	305 1☐	2☐	3☐	4☐
e. Class participation	306 1☐	2☐	3☐	4☐
f. Regular completion of homework assignments	307 1☐	2☐	3☐	4☐
g. Consistent attendance	308 1☐	2☐	3☐	4☐
h. Results of standardized tests produced outside the school	309 1☐	2☐	3☐	4☐
i. Results of tests with open-ended items	310 1☐	2☐	3☐	4☐
j. Results of tests with multiple choice or true-false items made by you or other teachers	311 1☐	2☐	3☐	4☐
k. Performance on projects or practical exercises	312 1☐	2☐	3☐	4☐
l. Your own observations of students	313 1☐	2☐	3☐	4☐
m. Items collected in student portfolios	314 1☐	2☐	3☐	4☐

The following questions ask about your classroom use of student **PORTFOLIOS**. Portfolios are a collection of student-generated artifacts that provide evidence over the semester or year about the range and extent of individual student performance and growth. Please answer the following questions about portfolio use last semester or grading period with your **DESIGNATED CLASS**.

46. In what content areas were PORTFOLIOS used with your DESIGNATED CLASS?

If portfolios were not used with your designated class, mark "None".

Mark (X) all that apply.

315 1☐ English/language arts
316 2☐ Math
317 3☐ Reading
318 4☐ Social studies
319 5☐ Science
320 6☐ Art
321 7☐ Music
322 8☐ Home economics
323 9☐ Foreign language
324 10☐ Other
325 0☐ None – *GO to item 51*

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SECTION IV – TEACHING METHODS – CONTINUED

43. Estimate the amount of time, in minutes, an average student in your class spent doing homework or activities you assigned students in your DESIGNATED CLASS to complete at home during an average WEEK.

Mark (X) only one box.

295
1 ☐ 0 minutes
2 ☐ 1–30 minutes
3 ☐ 31–60 minutes
4 ☐ 61–90 minutes
5 ☐ 91–120 minutes
6 ☐ 121–150 minutes
7 ☐ 151–180 minutes
8 ☐ 181–210 minutes
9 ☐ 211–240 minutes

44. How often do you use assessment information for the following purposes in your DESIGNATED CLASS? *Mark (X) one response on each line.*	Always (a)	Often (b)	Some-times (c)	Rarely (d)	Never (e)
a. Determining student grades or other formal progress reports	296 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. Providing feedback to students	297 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. Diagnosing student learning problems	298 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d. Reporting to parents	299 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e. Assigning students to different programs or tracks	300 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f. Planning for future lessons	301 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

NOTES

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SECTION IV – TEACHING METHODS – CONTINUED

47. What types of student work were included in portfolios?

Mark (X) all that apply.

326 1 ☐ Worksheets
327 2 ☐ Open-ended problems
328 3 ☐ Exploratory investigations
329 4 ☐ Long-term projects
330 5 ☐ Inter-disciplinary problems
331 6 ☐ Journal entries
332 7 ☐ Regularly assigned homework
333 8 ☐ Self-reflective writing
334 9 ☐ Narrative writing
335 10 ☐ Audio or video examples
336 11 ☐ Group work
337 12 ☐ Independent work
338 13 ☐ Tests and assessments

48. How were decisions made about the types of items that went into a student's portfolio? Selecting from those options listed below, indicate the source of directives and suggestions that guided the selection process for portfolios in your DESIGNATED CLASS. Directives are mandated and suggestions are not.

Mark (X) all that apply.

Mark as "NA" those that do not apply.

	Directive	Suggestion	N/A
a. School administration	339 1 ☐	2 ☐	3 ☐
b. School committee or task force	340 1 ☐	2 ☐	3 ☐
c. District staff	341 1 ☐	2 ☐	3 ☐
d. District committee or task force	342 1 ☐	2 ☐	3 ☐
e. State administration	343 1 ☐	2 ☐	3 ☐
f. State committee or task force	344 1 ☐	2 ☐	3 ☐
g. Classroom teacher	345 1 ☐	2 ☐	3 ☐
h. Students	346 1 ☐	2 ☐	3 ☐
i. Other	347 1 ☐	2 ☐	3 ☐

NOTES

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SECTION IV – TEACHING METHODS – CONTINUED

49. How often did you use student portfolios in your DESIGNATED CLASS last semester or grading period for the following purposes?

Mark (X) one response on each line.

	Almost every day (a)	Once or twice a week (b)	Once or twice a month (c)	Once or twice a semester (d)	Never (e)
a. Training students to reflect upon and/or assess **each piece of work**	348 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. Training students to reflect upon and/or assess **their overall progress**	349 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. Communicating student progress to parents	350 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d. Determining student grades or other formal progress reports	351 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e. Planning for future lessons	352 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f. Diagnosing student learning problems	353 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
g. Making informed decisions about student **placement**	354 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
h. Making informed decisions about student **graduation**	355 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
i. Providing information for program or school accountability	356 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

50. Listed below are statements about portfolio use in the classroom. For your DESIGNATED CLASS last semester or grading period, please indicate whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each statement.

Mark (X) one response on each line.

	Strongly agree (a)	Somewhat agree (b)	Somewhat disagree (c)	Strongly disagree (d)
a. Criteria about **types of work** to be included or excluded in the portfolio were explicitly defined and were known by students	357 1 ☐	2 ☐	3 ☐	4 ☐
b. Criteria and process for **evaluating work** in the portfolio were explicity defined and were known by students	358 1 ☐	2 ☐	3 ☐	4 ☐
c. Process to encourage students to **reflect upon and revise** work included in portfolio was explicitly defined and was known by students	359 1 ☐	2 ☐	3 ☐	4 ☐
d. Process to encourage student and teacher to **work collaboratively** on portfolios was explicitly defined and was known by students	360 1 ☐	2 ☐	3 ☐	4 ☐
e. Process to identify the **amount and type of support** student receives in completing each piece was explicitly defined and was known by students	361 1 ☐	2 ☐	3 ☐	4 ☐

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SECTION V – INCENTIVES AND COMPENSATION

51. The following questions refer to your before-tax earnings from teaching and other employment from the summer of 1994 through the end of the 1994-95 school year.

Record earnings in whole dollars.

a. DURING THE SUMMER OF 1994, did you have any earnings from –

(1) Teaching summer school in this or any other school?

362 1☐ Yes – **How much?** → 363 $ _____.00
2☐ No

(2) Working in a nonteaching job in this or any other school?

364 1☐ Yes – **How much?** → 365 $ _____.00
2☐ No

(3) Working in any NONSCHOOL job?

366 1☐ Yes – **How much?** → 367 $ _____.00
2☐ No

b. DURING THE CURRENT SCHOOL YEAR –

(1) What is your academic year base salary for teaching in this school?

368 $ _____.00 per year

(2) Do you, or will you, earn any additional compensation from your school for extracurricular or additional activities such as coaching, student activity sponsorship, or evening classes?

369 1☐ Yes – **How much?** → 370 $ _____.00
2☐ No

(3) Do you, or will you, earn additional compensation from working in any job outside this school system?

371 1☐ Yes – **How much?** → 372 $ _____.00
2☐ No

GO to item 51b(4).

Which of these best describes this job outside the school system? *Mark (X) only one box.*

373 1☐ Teaching or tutoring
2☐ Nonteaching, but education related
3☐ Not related to education

(4) Have you EARNED income from any other sources this year, e.g., a bonus, state supplement, etc.?

374 1☐ Yes – **How much?** → 375 $ _____.00
2☐ No

c. What will be your total EARNED income from all sources from the summer of 1994 through the end of this school year? Your answer should equal the sum of your answers to questions 51a(1)–b(4).

376 $ _____.00

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SECTION VI – BACKGROUND INFORMATION

52. Do you receive any income-in-kind in addition to or in lieu of your school salary?

Mark (X) all that apply.

377 1☐ Housing or housing expenses
378 2☐ Meals
379 3☐ Tuition for your children
380 4☐ Child care
381 5☐ College tuition for yourself
382 6☐ Car/transportation expenses
383 0☐ None of the above

53. Which category represents the total combined income (include your own income) of ALL FAMILY MEMBERS age 14 and older in your household during 1994? Include money from jobs, net business or farm income, pensions, dividends, interest, rent, Social Security payments, and any other income received by family members in your household.

Mark (X) only one box.

384

1☐ Less than $10,000	5☐ $25,000 - $29,999	9☐ $50,000 - $59,999
2☐ $10,000 - $14,999	6☐ $30,000 - $34,999	10☐ $60,000 - $74,999
3☐ $15,000 - $19,999	7☐ $35,000 - $39,999	11☐ $75,000 - $99,999
4☐ $20,000 - $24,999	8☐ $40,000 - $49,999	12☐ $100,000 or more

54. What is your current marital status?

385
1☐ Married
2☐ Widowed, divorced, or separated
3☐ Never married

55. How many children do you have who are dependent on you (and your spouse) for more than half of their financial support?

386
0☐ None → ***GO to item 57a.***

OR

☐ Children supported

56. What was the age of your youngest child on his/her last birthday? *(If child is less than one year, please enter "0.")*

387 ☐ Age of youngest child

57a. Do you have persons other than your spouse or children who are dependent on you for more than half of their financial support?

388
1☐ Yes
2☐ No

GO to item 58.

b. How many persons other than your spouse or children are dependent on you for more than half of their financial support?

389 ☐ Number of persons supported

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SECTION VII – RESPONDENT INFORMATION

The survey you have completed may involve a brief follow-up at a later time in order to gain information on current teachers' movements in the labor force. The following information would assist us in contacting you if you move or change jobs.

58. Please PRINT your name, your spouse's name (if applicable), your home address, telephone number, and the most convenient time to reach you.

390 1☐ Same as address label

391 Your name	Telephone number – *Include area code* ( )
Spouse's full name	Days/times convenient to reach you
Street address City / State / ZIP Code	In whose name is the telephone number listed? *Mark (X) only one.* 1☐ No phone 2☐ My name 3☐ Other – *Specify* ➶

59. What are the names and addresses of two other people who will know where to get in touch with you during the coming years? List no more than one person who now lives with you. Remember to record the relationship of these persons to you (for example, parent, friend, sister, cousin, etc.).

392 Name	Telephone number – *Include area code* ( )
Relationship to you	
Street address City / State / ZIP Code	In whose name is the telephone number listed? *Mark (X) only one.* 1☐ No phone 2☐ Name entered above 3☐ Other – *Specify* ➶
393 Name	Telephone number – *Include area code* ( )
Relationship to you	
Street address City / State / ZIP Code	In whose name is the telephone number listed? *Mark (X) only one.* 1☐ No phone 2☐ Name entered above 3☐ Other – *Specify* ➶

60. Not counting interruptions, how long did it take to complete this survey?

394 _____ Minutes

THIS COMPLETES THE QUESTIONNAIRE.
THANK YOU FOR ASSISTING US IN THIS IMPORTANT RESEARCH.
YOUR TIME AND EFFORT ARE APPRECIATED.

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THANK YOU FOR ASSISTING US IN THIS IMPORTANT SURVEY.
YOUR TIME AND EFFORT ARE APPRECIATED.

PLEASE RETURN THE QUESTIONNAIRE IN THE ENCLOSED ENVELOPE TO:

Bureau of the Census
Current Projects Branch
1201 East 10th Street
Jeffersonville, IN 47132-0001

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Department of Education
Washington, DC 20208-5651

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